Calhoun: The NPS Institutional Archive

DSpace Repository

Theses and Dissertations | 1. Thesis and Dissertation Collection, all items

1996-03

Navy advertising -- from budget to execution: a trend analysis of national advertising awareness

Tannahill, Sheryl L.

Monterey, California. Naval Postgraduate School

http://hdl.handle.net/10945/8721

This publication is a work of the U.S. Government as defined in Title 17, United States Code, Section 101. Copyright protection is not available for this work in the United States.

Downloaded from NPS Archive: Calhoun

http://www.nps.edu/library

Calhoun is the Naval Postgraduate School's public access digital repository for research materials and institutional publications created by the NPS community. Calhoun is named for Professor of Mathematics Guy K. Calhoun, NPS's first appointed -- and published -- scholarly author.

Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943

DUDLEY KNOX LIBRARY
NAVAL POSTGRADUATE SCHOOL
MONTEREY CA 93943-5101

NAVAL POSTGRADUATE SCHOOL
MONTEREY, CALIFORNIA

THESIS

NAVY ADVERTISING -- FROM BUDGET TO EXECUTION, A TREND ANALYSIS OF NATIONAL ADVERTISING AWARENESS

by

SHERYL L. TANNAHILL

MARCH 1996

Thesis Advisor: Natalie J. Webb

Approved for public release; distribution is unlimited.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503

1. AGENCY USE ONLY (Leave Blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	March 1996	Master's Thesis

4. TITLE AND SUBTITLE
NAVY ADVERTISING -- FROM BUDGET TO EXECUTION, A TREND ANALYSIS OF NATIONAL ADVERTISING AWARENESS

5. FUNDING NUMBERS

6. AUTHOR(S)
Tannahill, Sheryl L.

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
Naval Postgraduate School
Monterey, CA 93943-5000

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES
The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

12a. DISTRIBUTION / AVAILABILITY STATEMENT
Approved for public release, distribution is unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

Military recruiting and advertising expenditures by the United States Navy totaled $42.6 million in 1995. Commander, Navy Recruiting Command (CNRC) is responsible for executing the Navy's advertising budget. The problems faced by CNRC lie in determining if the FY 1994 and FY 1995 increases in advertising dollars fulfilled their objective of increasing national awareness. This study examines the increases in Navy national general enlisted advertising budgets to determine if additional spending resulted in (1) an increase in national awareness among the target population, as measured by the number of leads, or inquiries, generated, and (2) an increase in the influence of advertising on new recruits, as measured by the New Recruit Survey (NRS) responses during the period July 1994 through August 1995. To provide an analysis of the effects of advertising expenditures, this thesis investigates national advertising data by media type (television, radio, magazine, and direct mail), and the number of leads generated at the Navy Recruiting District (NRD) level. Due to data limitations, findings of this study are limited. Correlations between advertising expenditures and leads generated at the recruiting district level revealed little interdependence; however, a four month advertising lag effect emerged. Trend analysis of expenditures versus leads revealed no real change due to the increased budget. Lead patterns remain constant despite additional advertising. However, evaluation of the New Recruit Surveys revealed that national advertising creates awareness and has a positive influence on an individual's decision to join the Navy.

14. SUBJECT TERMS	15. NUMBER OF PAGES
Navy Advertising, Advertising Awareness, Navy Advertising Budget	80
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	UL

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18
298-102

Approved for public release; distribution is unlimited.

NAVY ADVERTISING -- FROM BUDGET TO EXECUTION, A TREND ANALYSIS OF NATIONAL ADVERTISING AWARENESS

Sheryl L. Tannahill
Lieutenant, United States Navy
B.S., United States Naval Academy, 1990

Submitted in partial fulfillment
of the requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
March 1996

DUDLEY KNOX LIBRARY
NAVAL POSTGRADUATE SCHOOL
MONTEREY CA 93943-5101

ABSTRACT

Military recruiting and advertising expenditures by the United States Navy totaled $42.6 million in 1995. Commander, Navy Recruiting Command (CNRC) is responsible for executing the Navy's advertising budget. The problems faced by CNRC lie in determining if the FY 1994 and FY 1995 increases in advertising dollars fulfilled their objective of increasing national awareness. This study examines the increases in Navy national general enlisted advertising budgets to determine if additional spending resulted in (1) an increase in national awareness among the target population, as measured by the number of leads, or inquiries, generated, and (2) an increase in the influence of advertising on new recruits, as measured by the New Recruit Survey (NRS) responses during the period July 1994 through August 1995. To provide an analysis of the effects of advertising expenditures, this thesis investigates national advertising data by media type (television, radio, magazine, and direct mail), and the number of leads generated at the Navy Recruiting District (NRD) level. Due to data limitations, findings of this study are limited. Correlations between advertising expenditures and leads generated at the recruiting district level revealed little interdependence; however, a four month advertising lag effect emerged. Trend analysis of expenditures versus leads revealed no real change due to the increased budget. Lead patterns remain constant despite additional advertising. However, evaluation of the New Recruit Surveys revealed that national advertising creates awareness and has a positive influence on an individual's decision to join the Navy.

TABLE OF CONTENTS

I. INTRODUCTION 1

A. BACKGROUND 1

B. OBJECTIVE 5

C. RESEARCH QUESTIONS 5

D. LITERATURE REVIEW 6

II. NAVY ADVERTISING PROGRAM 11

A. ORGANIZATION 11

B. PROGRAM AREAS 15

C. GENERAL ENLISTED ADVERTISING PROGRAM 17

D. NAVY SLOGANS 17

E. MEDIA UTILIZATION 18

F. NAVY ADVERTISING OBJECTIVES 20

G. YOUTH ATTITUDE TRACKING STUDY (YATS) 21

H. NEW RECRUIT SURVEY (NRS) 22

III. ESTIMATING ADVERTISING COST-EFFECTIVENESS 25

A. ADVERTISING POLICY ISSUES 25
1. Advertising Goals 25
2. Estimating a Budget 26
3. Allocation of Dollars Among Alternative Media 27

B. MEASURING AWARENESS 28

C. DATA 30
1. Budget 30
2. Advertising Expenditures 31
3. Impressions 31
4. Leads Generated 31
5. New Recruit Survey (NRS) and Youth Attitude Tracking Study (YATS) 31
6. Miscellaneous Data 32

D. DATA LIMITATIONS 32
1. Budget Data 32
2. Advertising Expenditure Data 33
3. Leads Generated Data 33

IV. ANALYSIS 35

A. STUDY METHODOLOGY 35

B. RESULTS 37

V. CONCLUSIONS AND RECOMMENDTIONS 59

A. CONCLUSIONS 59

B. RECOMMENDTIONS 60

LIST OF REFERENCES 63

UNCITED REFERENCES 65

INITIAL DISTRIBUTION LIST 67

LIST OF FIGURES

1. Annual Advertising Expenditures FY80-FY96 in Constant 1995 Dollars 4
2. Geographic Orientation of Navy Recruiting Command 13
3. Allocation of Navy National Advertising Budget to Major Program Areas in FY 1995 16
4. General Enlisted National Advertising Totals; Aggregated Television, Radio and Magazine Data 40
5. NRD 102 Impressions vs Dollars by Media Type 42
6. NRD 313 Impressions vs Dollars by Media Type 43
7. NRD 547 Impressions vs Dollars by Media Type 44
8. NRD 836 Impressions vs Dollars by Media Type 45
9. NRD 102 Leads vs Dollars 48
10. NRD 313 Leads vs Dollars 49
11. NRD 547 Leads vs Dollars 50
12. NRD 836 Leads vs Dollars 51
13. National Advertising Leads Generated FY 1993 through FY 1994 53
14. Navy Advertising Awareness 55
15. Navy Advertising Influence 57

LIST OF TABLES

1. Annual Advertising Expenditures 3
2. 1995 Navy Recruiting Areas and Districts 12
3. General Enlisted Contracted Advertising Expenditures 38

I. INTRODUCTION

A. BACKGROUND

Advertising has long been used by all branches of the United States Armed Forces. Posters and handbills provide some of the earliest evidence of efforts to use advertising as a means of recruiting. However, the magnitude of advertising has varied throughout history. The Navy spent little more than a million dollars on all of its advertising programs in 1964, less than .01% of all Navy expenditures in FY 1964 (Arima, 1978). In fact, in FY 1965, in the midst of the Vietnam conflict, the Navy's advertising budget dipped below the million dollar mark.

The introduction of the All Volunteer Force (AVF) in July 1973 changed the role of Navy advertising as it presented a major new marketing challenge. There no longer existed a "guaranteed" manpower level of qualified males whose only choice was among which branch of the military to serve. The Navy was faced with the task of competing not only against the other armed services, but with the civilian labor market as well. This required the development of a new marketing strategy in which enlistments were transacted in large quantities to adequately staff the naval forces in numbers as well as in required quality.

The reality of the AVF resulted in advertising becoming a major portion of the Navy's new recruiting mission. Advertising expenditures quadrupled, in real terms, between FY 1971 and FY 1972 and tripled in FY 1973, the year American involvement in the Vietnam conflict concluded and the draft ended (Arima,

1978). The first year of the AVF, FY 1974, was a peak year for advertising expenditures; the Navy spent $26.8M (then year dollars). Spending slowly decreased as the AVF took hold, plateauing at about six times the level of the last year completely unaffected by the AVF, FY 1971.

The end of the Cold War plunged the military into an era dictated by significantly different circumstances than those encountered in previous decades. The imposing threat to national security was abruptly ended and the armed forces found themselves floundering to gain a foothold in the realm of the unknown future. Some of the major impacts of these changes have been the downsizing of the Navy's end-strength targets, reduced budgets and diminishing advertising funds. As indicated by Webb and Sohn (1994), albeit forces have been cut across all ranks, it was the public's perception that a smaller Navy was achieved by means of curtailed enlistments. This perception resulted in the Navy's advertising budget being reduced from approximately $42 million in FY 1986 to only $15.1 million in FY 1992. A record of advertising expenditures by the Navy over the last sixteen years is presented in Table 1 and illustrated graphically in Figure 1.

Contrary to public perception, mandated enlistment numbers remain relatively constant. This has been necessary to compensate for attrition among enlistees through their first enlistment. In an effort to increase public awareness and to compete for high quality enlistees, Congress virtually doubled the Navy's advertising budget in FY 1994 to $30.2 million. The purpose of this research

Table 1
Annual Navy Advertising Expenditures
(in millions of dollars)

FY	Current Dollars[1]	Constant Dollars[2]
80	19.0	32.2
81	18.9	29.0
82	16.3	23.9
83	15.5	22.3
84	13.1	18.4
85	20.0	27.4
86	31.0	42.0
87	14.9	19.6
88	19.4	24.6
89	19.3	23.6
90	25.1	29.5
91	16.6	18.5
92	13.9	15.1
93	15.5	16.3
94[3]	29.7	30.2
95	36.0	36.0
96	37.0	36.0

[1] Source: Navy Recruiting Command.
[2] Calendar Year 1995 = 100
[3] FY94-96 figures do not include postage. Prior to FY94, individual commands were not required to pay their own postage.

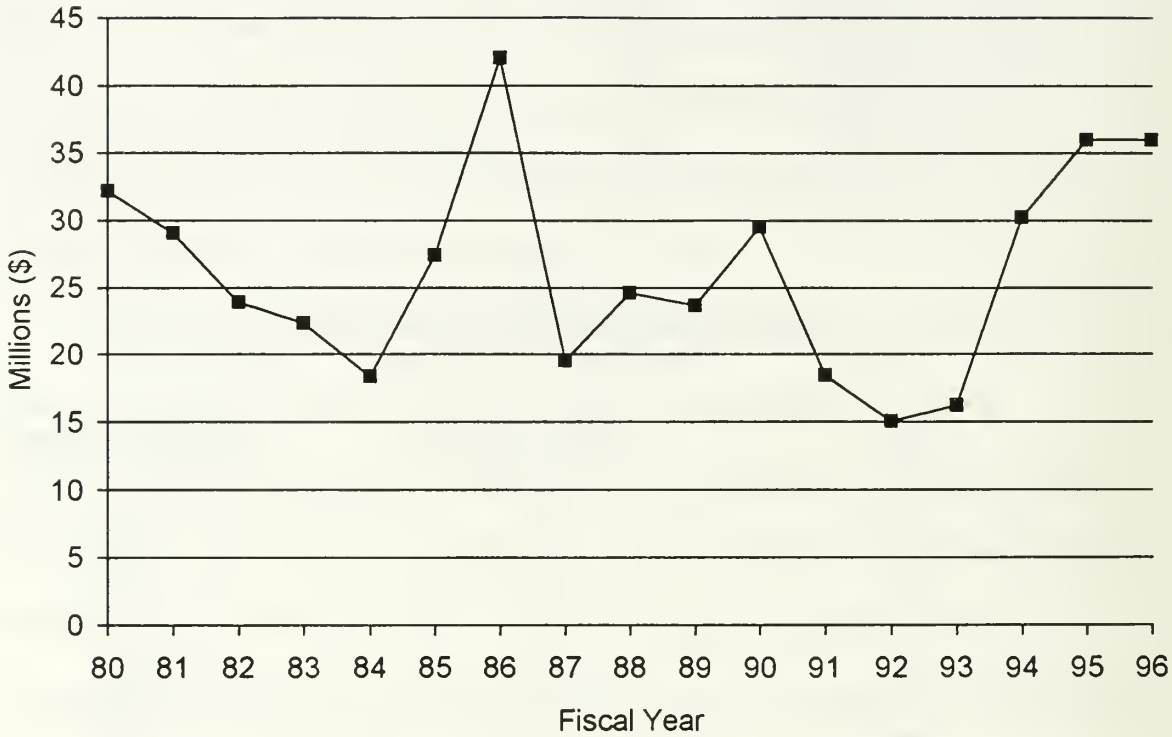

Figure 1. Annual Advertising Expenditures FY80-FY96 in Constant 1995 Dollars

effort is to analyze the cost effectiveness of the Navy's general enlisted national advertising program.

Commander, Navy Recruiting Command (CNRC) is responsible for executing the Navy's advertising budget. The problems faced by CNRC lie in determining if the increase in advertising dollars has increased national awareness. The measure used in this study to determine awareness is the number of leads generated, or the number of inquiries generated by national advertising. While the number of leads generated do not encompass all possible awareness factors (i.e., parents, teachers, friends), it does permit a means of measuring awareness among the target audience. The bridge

between awareness and sales is rarely crossed by national advertising agencies. However, in an environment which looks to justify smaller budgets, the link between the two must be ascertained by the Navy to determine the effectiveness of advertising dollars being spent.

B. OBJECTIVE

The objective of this thesis is to provide an analytical evaluation of the affects of changes in budgetary dollars for Navy national advertising from FY 1993 through second quarter FY 1995. Given the changes (plus-ups) in the budget, this study determines if there is any evidence that the increase in advertising has caused an increase in national awareness, as measured by the number of leads generated. In addition, it determines if there has been an increase in the influence of advertising on new recruits, as measured by the New Recruit Survey results from July 1994 through April 1995.

C. RESEARCH QUESTIONS

The following specific questions are addressed in this research:

1. Has the increase in the Navy advertising budget had an impact on national advertising awareness as measured by the number of leads generated?

2. How much of the budget is spent on advertising execution and how much is considered production overhead?

3. What is the relationship between changes in the Navy advertising budget and changes in the number of leads generated?

4. What is the relationship between the number of impressions[4] media dollars buy and the number of leads generated?

5. Given successful execution, is there evidence that Navy advertising increases national awareness?

6. Is there evidence that the increase in the Navy advertising budget affects attitudes of new recruits?

7. Does the evidence suggest some media types are more cost-effective in terms of the number of leads they produce?

D. LITERATURE REVIEW

Numerous studies since the conclusion of the draft analyzed the effects of economic factors, advertising expenditures, and various recruiting assets on enlistments. The consensus among studies conducted for the Navy was that advertising's impact on the supply of recruits was relatively weak in comparison to environmental factors, economic factors, and recruiter motivation. (Bayus, et al. 1985, Goldberg, 1982, Hanssens and Levien, 1983, and Morey and McCann, 1980) This conclusion was based on a failure to establish statistical relationships between the varying levels of advertising expenditures and corresponding number of enlistments (Dertouzos, 1989).

The majority of advertising agencies and advertising research firms that perform research on the effectiveness of advertising state that the important factors to measure are awareness of and attitude toward the product or service

[4] An impression is defined as the exposure of one individual to one advertisement. Impressions will be further discussed in Chapter III.

being advertised. Rather than budget levels, their concern is with the message, the segmentation of the population into target audiences, and the reach and frequency with which audiences are contacted. The bridge between awareness and attitudes on one hand, and leads or recruits, on the other, is rarely crossed.

A number of models have been developed which deal with the various features of military enlistment supply and demand. RAND researchers developed an early model which captured the effects of advertising. Using Army advertising expenditure data from the early 1980s, the study gauged the effectiveness of Army advertising over a 36-month period, FY 1982 through FY 1984. The empirical results showed that, in general, advertising expenditures in a given month had a significant and immediate effect on the number of high-quality Army enlistments. In addition, the study suggested that at the budget and operational levels which prevailed in the 1980s, Army advertising expenditures were made in a cost-effective manner. (Dertouzos and Polich, 1989)

The Dertouzos and Polich (1989) study accumulated geographical data for advertising, recruiting goals, and goal attainment both at the national and local levels. Significant variation was noted in both the advertising mix and expenditure levels for local and national advertising. The variation was determined to exist both over time and across geographical location. "... after accounting for variations across areas, [the] analysis suggests that there is a one-to-one correspondence between changes in expenditures and changes in

impressions." (Dertouzos and Polich, 1989, p17). In addition, "... once systematic differences across [areas] are taken into account, cost data accurately reflect the penetration of advertising." (Dertouzos and Polich, 1989, p17). Cost data was subsequently used in lieu of audience or rating data to represent advertising in specific media.

Bayus et al. (1985) examined the market effectiveness of the Navy's recruiting program and attempted to quantify the relationship between marketing efforts and enlistments. They performed a one-year controlled experiment in which numbers of Navy recruiters and levels of advertising were systematically varied. Monthly data for FY 1980 was gathered into a comprehensive data base and evaluated by quality of contracts.

Bayus et al. found recruiters to have the most constant effect on enlistments across all contract types. It was also discovered there were "... variations of recruiter effectiveness based on both calendar period and recruiter tenure" (p372). Navy national advertising did not have any significant effect; however, the effect of local advertising was strong. The study attributed this effect of local advertising to the possibility that "... local advertising stimulates local leads and walk-in traffic in lieu of national leads". (p371) Finally, socioeconomic factors such as unemployment and urbanization were found to have major impacts on the enlistment numbers and quality of enlistees.

Hanssens and Levien (1983) utilized historical data at the district level from 1976-1978. Total Navy contracts were analyzed by month and recruiting

district. An econometric model quantified the effects of various environmental and marketing variables on nationally generated leads and contracts.

The econometric model revealed that both environmental and marketing variables had significant impacts on recruiting performance over time and across recruiting districts. National advertising was positively correlated with national leads; however, there was no real effect on contracts signed. In addition, local advertising negatively influenced national leads. It was suggested that there was no real lag effect for recruiters on leads or contracts signed, and only a one month lag effect for advertising.

Warner (1990) examined trends in military recruiting during the 1980s. The findings of the study were consistent with the many previous studies of Army enlistment supply. Changing the number of recruiters and the advertising budget were determined to be the most cost-effective means of varying high-quality enlistments. More interestingly, the study also concluded that cooperation, rather than competition, existed among the military recruiting programs. In particular, expanding the recruiter forces of one service seemed to increase the enlistments of all services.

In summary, the academic literature on military recruiting has been focused on socioeconomic effects and recruiter efforts. In analyzing the effectiveness of advertising, there does not appear to be many attempts linking the awareness advertising creates to any measurable outcome, such as leads generated or number of recruits.

II. NAVY ADVERTISING PROGRAM

A. ORGANIZATION

CNRC, headquartered in Arlington, Virginia, is responsible for carrying out the Navy's recruiting effort. In 1995, CNRC was responsible for recruiting more than 48,000 individuals, an accomplishment that used a budget of 42.25 million dollars and a force of more than 4000 recruiters and support staff. These recruiters are distributed throughout the geographic United States, which is divided into four regional areas or Navy Recruiting Areas (NRAs). The NRAs are further divided into 31 Navy Recruiting Districts (NRDs) as listed in Table 2. The geographic orientation of the NRAs and NRDs is illustrated in Figure 2. Districts are split into 185 zones, and the zones into 1176 stations. Stations provide face to face sales for Navy recruiting. The recruiting effort is divided into several marketing medium including: television, direct mail, radio, magazine, paraphernalia, and personal contact.

Two additional field activities operate under CNRC. The Navy National Recruiting Information Center (NNRIC) in Rockville, Maryland, receives toll-free telephone inquiries to 1-800-USA-NAVY in response to Navy ads. The inquiries are forwarded to the second activity, Navy Opportunity and Information Center (NOIC) in Gaithersburg, Maryland. Both NNRIC and NOIC serve as collection centers for leads generation data and are not sources for leads. The mission of NOIC is to intake, process, and respond to inquiries from the public

Table 2
1995 Navy Recruiting Areas and Districts

NRA Code	*Name*	*NRD Code*	*Name*
01	Scotia, NY	02	New England
		03	Buffalo
		04	New York
		18	Columbus
		19	Philadelphia
		20	Pittsburgh
		22	Michigan
03	Macon, GA	10	Montgomery
		12	Jacksonville
		13	Atlanta
		14	Cumberland Valley
		15	Raleigh
		16	Richmond
		34	New Orleans
		48	Miami
05	Great Lakes, IL	21	Chicago
		27	Kansas City
		28	Minneapolis
		29	Omaha
		31	Dallas
		32	Houston
		42	Indianapolis
		47	St. Louis
08	San Francisco, CA	25	Denver
		30	Albuquerque
		36	Los Angeles
		37	Portland
		38	San Francisco
		39	Seattle
		40	San Diego
		46	San Antonio

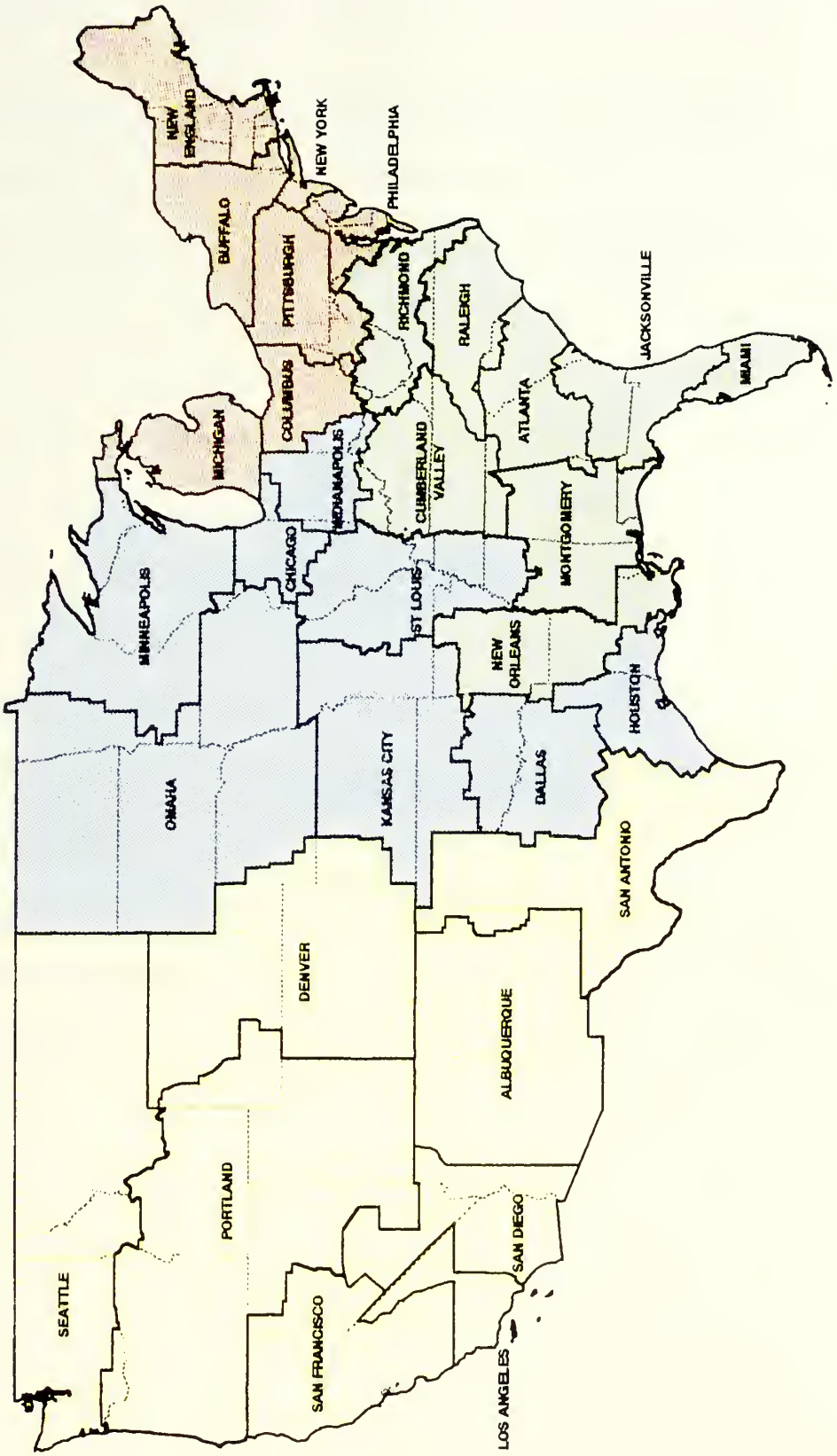

Figure 2. Geographic Orientation of Navy Recruiting Command

about opportunities in the US Navy. The inquiries may be received from business reply cards, unsolicited inquiries (termed "white mail"), or calls to the 1-800 telephone number. Once the inquiries are made, they are evaluated as eligible or not eligible. Eligibility is determined based on the following criteria:

Age: 16.5 to 34.9

Education: 11 years of school completed during July-April, inclusive, or at least 10 years completed during May-June

The day following an inquiry, fulfillment of eligible leads is carried out by sending the inquirer an "EG" (general enlisted) computer letter, "Today's Navy" booklet, and a College Fund Fact Sheet. At the same time, a postcard is sent to the corresponding recruiter in the same district with information pertaining to the lead for follow-up action.

The Marketing Communications Department (Code 80) at CNRC is divided into five divisions, representing the functional breakdown of the advertising effort:

Code 81 Public Affairs Division

Code 82 Director of Education and Youth Programs Division

Code 83 Creative Services Division

Code 84 Management Services Division

Code 85 Advertising Operations Division

The national advertising effort works through all of these divisions to create and market programs on a national level. The advertising agency Batten, Barton,

Durstein and Osborne (BBDO) handles the majority of advertising for national programs and media (television, radio, and magazines). There is a separate agency which handles direct-mail services, Rapp Collins Worldwide (RCW).

Recruiting aids (called "RADs") are planned, created, and distributed through in-house efforts by the Creative Services Division. The promotion of public service advertising is also handled in-house. Finally, the Management Services Division creates the communications plans and tracks and monitors overall program progress. One of the tracking systems used is the Navy Advertisement Lead Tracking System (NALTS) which tracks the distribution of leads received through the toll-free telephone number. Leads are tracked in numerous ways, for example, by NRA, NRD, advertising program, or agency. The NALTS system is continuously updated by recruiters and districts as leads information changes.

B. PROGRAM AREAS

Navy advertising programs are closely aligned with the recruiting programs they support. A majority of the advertising budget can be directly linked with these recruiting programs. Recruiting is initially broken down into enlisted and officer categories; there are general enlisted and general officer programs. Both of the general programs also have programs specifically geared toward minority recruiting. The enlisted program is further separated into categories for reserves and occupational specialty. The officer program is segregated by occupational specialty, such as medical or chaplain programs, or

source of commissioning, such as NROTC. The general enlisted national advertising program is the focus of this study.

The allocation of national advertising funds to major program areas is shown in Figure 3, based on the FY 1995 Close-out Report. Almost three-fourths of national advertising funds go to the general enlisted program alone. The remainder goes to officer programs and postage. The ratio of enlisted to officer advertising is 4-to-1. Of note, until FY 1994, individual commands did not pay their own postage; since then, postage has consumed a good portion of the advertising budget.

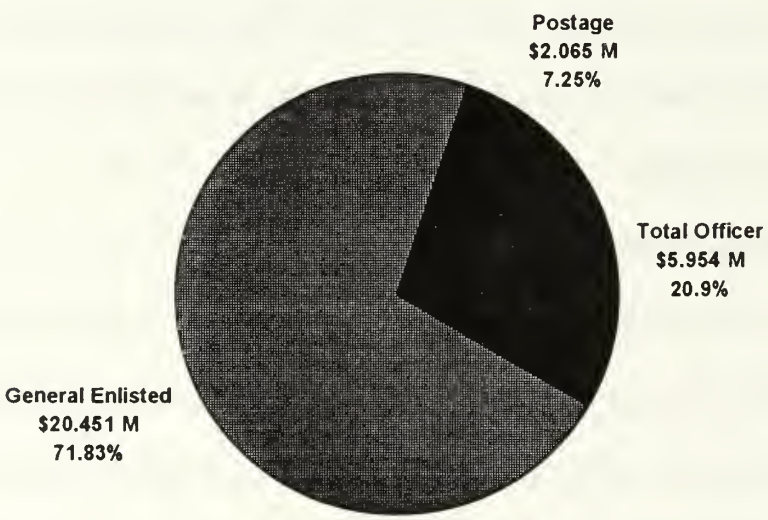

Figure 3. Allocation of Navy National Advertising Budget to Major Program Areas in FY 1995

C. GENERAL ENLISTED ADVERTISING PROGRAM

The general enlisted program is an umbrella program whose target is 18-to-24 year olds with an emphasis on 18-to-21 year olds who have graduated from high school, are in the upper half of this group in general mental aptitude, and are mechanically and technically oriented. The basis to this approach is a unique selling proposition (USP) that distinguishes the Navy and its jobs from those in the civilian job market. This uniqueness feature changes over time and is illustrated by the various slogans which have been the backbone of national advertising campaigns.

D. NAVY SLOGANS

The primary slogan in use from 1976 to 1986 was "It's Not Just a Job, It's an Adventure." The USP of this slogan was the extra dimension of adventure, placing an emphasis on convincing young men (at the time, all advertising was focused on recruiting 18-24 year old men) that the Navy provided jobs and opportunities that were superior to their civilian counterparts. Although no longer the official slogan, there are still publications and brochures in recruiting offices imprinted with the "It's Not Just a Job..." slogan.

The slogan which followed, "You Are Tomorrow," served as the official slogan for only two years, from 1987 through 1988. While short-lived in terms of exposure time, polls have shown it to be more readily identified to the Navy than its predecessor, which is often accredited to the Army. (Lerro, 1991)

The current official slogan is "You and the Navy, Full Speed Ahead," with extra emphasis being place on the "You." This slogan has been in place since 1989 and intends to convey the message that the Navy cannot forge on into the future without the men and women who make up its ranks.

E. MEDIA UTILIZATION

The general media utilization policy of the Navy's national advertising program is that peak advertising should occur in the periods of April to May and September to November. This policy is based on the premise that critical decision periods for the primary target group occur prior to graduation in the late spring, and then again in the fall. The distribution of resources is also driven by the characteristics of the different media.

The various types of media in the national advertising program are television, radio, magazines, direct mail, newspapers, supplemental, and outdoor. The distribution of resources to each is determined by policies and practices pertaining to the type of media utilized.

Television allows an advertising theme to benefit from the sight, sound, and motion employed by this medium. Though time for syndicated, network, and cable television programs must be purchased well in advance of the appearance date, television maintains relatively high audience selectivity. Thus, it is probably the best suited advertising medium for increasing awareness in a broad reach capacity.

Paid radio has a high frequency of impact and a fast reach capability. It provides a flexible means of advertising without requiring the long lead time of television. In addition, radio advertising provides the ability to be quite selective in the target audience.

Magazines provide a continuous, year-round program that transmits an advertisement in detail. Magazine advertising has a relatively long lag effect since it is hard copy and retained for extended periods of time. Inquiries based on magazine ads continue to be received weeks, months, and occasionally, years after the insertion of an ad. The increase in subject-focused magazines (i.e., professional journals, "teen" magazines, etc.) provides fairly high audience selectivity. Magazines facilitate leads generation with the insertion of pop-up cards or on-page coupons (Arima, 1978).

Direct mail is an especially versatile medium because it allows the most specificity and segmentation of the target audience (i.e., this year's graduating seniors in predominantly black schools) (Arima, 1978). Its mail-back postcard feature makes it a successful leads generator and an action-oriented device rather than simply a tool for influencing awareness or attitudes.

Newspapers and supplementals are not widely used on the national level. The primary use would be to rectify shortages in critical occupational areas. There has been no money spent on a national newspaper advertisement since second quarter FY 1992. Since then, only the third quarter of FY 1993 included

supplemental advertisement funding. Newspapers and supplementals are primarily for local recruitment advertising.

Over a decade ago, outdoor advertising, such as billboard murals, was used rather extensively for limited purposes. While the potential for broad coverage is great, the problem found with outdoor advertising was that the viewer was usually in rapid motion. This does not facilitate a good transmission of information. Thus, outdoor advertising on a national level has not received any funding in the past decade.

F. NAVY ADVERTISING OBJECTIVES

The Annual Advertising Plan (ADPLAN) of the Marketing Communications Department sets the marketing objectives for each recruiting program. Since advertising is a part of the overall marketing plan, the advertising program should contribute toward the achievement of the marketing objectives. However, the difference between advertising and marketing is sometimes hard to distinguish.

Advertising objectives listed in the current ADPLAN for the general enlisted program are quite comprehensive. Preceding the list of objectives is an assertion stating that objectives are to be achieved by building a greater awareness of, and positive attitude toward, the Navy. The list of specific objectives is as follows:

1. Greater walk-in traffic at the recruiting station.
2. More favorable response to a recruiter's telephone call.

3. Increased calls to the toll-free number.
4. More leads generated to NOIC.
5. Greater discussion among influentials.
6. More favorable reception to recruiter's request to visit groups.
7. Increased dialogue between prospect and recruiter.
8. Better understanding of Navy benefits.
9. Greater receptivity to direct mail solicitations.
10. Greater respect for the Navy recruiter within the community.
11. Increased self-esteem among the field recruiters
12. The understanding by the prospect that jobs and careers in the Navy are more rewarding than those in civilian jobs.[5]

It should be noted that the primary objective of the Navy national advertising program is to enhance awareness among the population. This differs from the purpose of local advertising, which is to attain sufficient quantities of qualified recruits. As such, the problem lies in the identification of a measurable means for evaluating the success of the national advertising campaign.

G. YOUTH ATTITUDE TRACKING STUDY (YATS)

YATS is an annual survey of approximately 10,000 men and women, aged 16 to 24. Respondents are identified through a random selection of telephone numbers. Computer assisted telephone interviews (CATIs) collect information on backgrounds, current status and future plans, self-reported likelihood of

[5] The listed objectives are part of the FY 1990 Annual Advertising Plan (ADPLAN) and are still in effect.

enlisting in the military, and perceptions concerning a wide variety of relevant issues. CATI presents questions on a computer screen to the interviewer to read over the telephone, and interviewers type the responses into a database as the interview is conducted. This technology eliminates inappropriate questions based on the respondent's earlier answers and identifies inconsistent responses during the interview. (Lerro, 1991)

YATS is designed to help determine how effective military advertising is in increasing awareness among its target audience. Data on service advertising awareness levels, slogan recognition, reactions to receipt of service literature, and actions taken to obtain information about the military are analyzed in terms of demographics, advertising exposure, and military perceptions.

H. NAVY NEW RECRUIT SURVEY (NRS)

The NRS is administered to new recruits at Recruit Training Centers three times a year. The NRS was administered in 1990-1991 but was subsequently suspended until 1994. It has since been coordinated by CNRC Code 22 and administered in July 1994, November 1994, April 1995, and August 1995. The NRS is designed to assess the effectiveness of recruiting incentives, advertising, and applicant processing. Several content areas are addressed in the survey: recruiter contact, recruiting advertising, enlistment motivation, job choices or preferences, Navy College Fund, employment history, and magazine preferences.

The survey includes questions pertaining to "core" items, which remain constant over time, as well as "current" items that would be responsive to special programs or immediate concerns (Robertson, 1993). The "core" item questions serve to track trends in areas such as demographics, backgrounds, and enlistment motivation. The "current" items might change with each survey according to world events, such as the influence of the Gulf War, or current popular media programs, such as movies or popular television shows. In this capacity, the magazine preference section aids in determining the magazine advertising plan by revealing the most popular titles among the target audience. Results of the NRS assist in evaluating the effectiveness of national advertising in reaching its target audience, increasing awareness, and promoting a positive attitude toward the Navy.

III. ESTIMATING ADVERTISING COST-EFFECTIVENESS

A. ADVERTISING POLICY ISSUES

The cost of advertising is difficult to justify in both the public and private sectors. The problem of measuring advertising effectiveness becomes key due to an incapacity to predict the return on investment for advertising expenditures. It is difficult to refute the usefulness of advertising in the marketing effort. However, justifying budget requirements and demonstrating the relationship of expenditures to outcomes become the primary issues.

1. Advertising Goals

Establishing an effective allocation of resources means that policymakers must address a series of questions concerning the goals and methods of advertising programs. A target audience must be identified, a budget established, dollars must be allocated among alternative media, and an optimal pattern of expenditures must be implemented over time. This optimal allocation of expenditures depends on the objectives of advertising which may vary in different circumstances.

In the case of recruiting advertising, the current accession status may denote a particular strategy. During an economic decline, enlistment propensities may be adequate without any advertising. In such an environment, an appropriate campaign may emphasize building a foundation for future enlistments by targeting a younger population. In contrast, a shortage of accessions in any given occupational specialty may impel an advertising

campaign consisting of a series of advertisements in local newspapers or high school publications emphasizing enlistment bonuses or educational benefits. (Dertouzos and Polich, 1989)

DoD management may have differing goals; it may be concerned with public image over the long term, assuming that by enhancing the public's view of the military, the recruiting and retention climate for the military and civilian employees will improve. A clearly stated advertising goal helps justify advertisement budget requirements.

2. Establishing a Budget

Webb and Sohn (1994, p16) provide the following stages for preparing an advertising budget. They entail costing out the advertising elements required to increase sales. The stages of preparing the budget are:

> (1) Define and evaluate a "target audience" in terms of the types of media and frequency of advertising exposure needed to elicit responses leading to sales.
>
> (2) Decide how many and what kinds of advertisements to run for each media program size and type.
>
> (3) Estimate the cost of creating and maintaining an advertisement pool that supports the number and type of advertisements selected. Note that complexity of the product offer and the receptivity of the audience influences effectiveness of the pool.
>
> (4) Cost out a national media budget that will provide the desired level of continuing exposure. Media budget size is critical: an individual advertisement will not cause awareness if not seen or heard enough times to affect awareness. Thus, the budget size limits the size of the advertisement pool. There also exists evidence that "wear out" occurs from overexposing the target audience to the same advertisements. "Wear out" provides a rationale for expanding the number and type of advertisements run.

(5) Determine costs of related essential operational elements such as a system for responding to inquiries, processing leads, and recording data needed to show advertising cost-effectiveness.

Although this method of establishing a budget is outwardly logical, "... the verification of specific underlying assumptions, including effectiveness and costs, is difficult" (p16).

3. Allocation of Dollars Among Alternative Media

Dertouzos and Polich (1989) suggest that "... the size of the advertising budget may be viewed as being fixed in the short run. However, for the organization as a whole, advertising represents one type of resource that must compete with alternative expenditures. (p4)"

When given an overall budget, managers must evaluate the many competing media available for delivering messages to the target audience. CNRC allocates its advertising budget between national and local advertising, and across national media type. For national advertising, CNRC and their advertising agency (BBDO) determine how to divide the disbursements across NRAs and NRDs in order to effectively reach the target audience.

Advertising purchases can differ by the size and demographics of the intended audience, the cost of delivery, and potential penetration of the target market. In addition, alternative media may have comparative advantages in conveying qualitative messages. For example, prime-time network television is likely to be more efficient at exposing varied national audiences to messages that convey broad images, while display advertisement in a high school newspaper can provide detailed information to a distinct demographic segment

of the population (Dertouzos and Polich, 1989). Depending on the objectives of advertising, each medium has potential to play a different role.

B. MEASURING AWARENESS

Navy national advertising enhances the image of the Navy in the public mind, creating awareness about the Navy, its benefits, and its opportunities. It assumes that such awareness will improve the recruiting climate and enhance the retention of enlistees. Unfortunately, this "awareness" is not readily measurable. CNRC can refer to indications of high awareness of campaign slogans among youth as recorded in tracking surveys, such as YATS, and assert that advertising creates awareness. However, it cannot prove that changes in advertisement exposure achieved corresponding changes in the levels of awareness.

Awareness is usually equated to exposure, or a respondent's knowledge about the Navy, its benefits, and its opportunities. It is a function of expenditures on media, direct mail, and local advertising, along with other factors, such as family members who have joined the service. Awareness of the benefits of military service may lead a young person to respond positively to a call from a recruiter or some other independent stimulus.

Awareness is currently measured by advertising impressions. Advertising agencies provide estimates of the number of impressions gathered each month by the agency's advertising on television, radio, and magazines and through direct mail campaigns. An impression is defined as the exposure of one

individual to one advertisement. The total number of impressions is the number of times an advertisement is run (frequency) times the number of people who see the advertisement (audience size). Because they are said to be the best agent for capturing the effect of an advertisement campaign on potential enlistees, their families and friends, impressions are used as a measurement of awareness or advertising effectiveness.

The problem associated with the use of impressions as a measurement of awareness lies in the area of the unknown. Impressions measure "potential" viewers based on projected audience sizes. There is no concrete manner to measure the actual number of viewers of any advertisement medium at any given time. Direct mail comes the closest with knowledge of the number of mailings sent out and delivered. However, it remains impossible to determine the exact number of individuals who actually opened and read the mailing.

This study makes an argument for using the number of leads generated as a measure of awareness. The number of leads generated is measurable down to the recruiting district level. The number of phone calls into the toll-free number is also measurable at the recruiting district level. The number of phone calls may be indicative of the number of positive impressions made to the target audience through national advertising campaigns. Leads generation costs and awareness costs are usually differentiated as being marketing and advertising costs, respectively. While the bridge between "sales" and awareness is seldom, if ever, crossed by national advertising agencies, it is the intent of this study to

establish a link between the two in order to determine the true effectiveness of the Navy's advertising expenditures.

C. DATA

1. Budget

U.S. Navy Budget and Expenditure (B&E) reports for contracted advertising campaigns were compiled for a three-year period, from FY 1993 through FY 1995. The B&E reflects CNRC's budgeted production and execution dollars as well as overhead, general and administrative, postage, and miscellaneous amounts for contracted television, magazine, radio, and direct mail national advertising.

Full advertising contracts are forged in an 18-month cycle. This incorporates negotiation of a fixed price contract, setting of appearance dates, requests for bids, contract award, production, and execution. The B&E indicates the anticipated appearance date for each specific advertisement. There is a six-month lag effect built into this date. The dollars corresponding to the appearance date were authorized in the budget dated six months prior. Thus, the B&E is continuously updated to reflect changes in production schedules, appearance dates, canceled advertisements, and emergency requirements.

The B&E categorizes expenditures by advertising medium (television, magazine, radio, direct mail), then by majority and minority (Hispanic and Black) groups, and finally into target occupations or audiences (Nuclear Officer, NROTC, General Enlisted, etc.). Other expenditures relating to overhead,

general and administrative, and postage are also indicated. Only data for the general enlisted program were used in this study.

2. Advertising Expenditures

Actual national advertising expenditures for the general enlisted program were collected for FY 1993 through the second quarter of FY 1995 from the NRD Allocation Matrix and the Recruit Information Delivery System (RIDS). Figures in the NRD Allocation Matrix are maintained by the advertising agency, BBDO, and categorized by month by media type, by NRD. RIDS is maintained by Code 22, the Research and Analysis Division, of CNRC. The expenditures listed within it mirror those in the NRD Allocation Matrix.

3. Impressions

Impressions data for Navy-unique, general enlisted advertisements were also collected for FY 1993 through the second quarter of FY 1995 from the NRD Allocation Matrix and RIDS. These figures were categorized by month by medium by NRD for a target audience of 18-24 year old males.

4. Leads Generated

National general enlisted leads generated figures were collected for FY 1993 through FY 1995 from the Navy Advertising Leads Tracking System (NALTS). These data were classified by month by NRD and were an aggregate of television, radio and magazine leads.

5. New Recruit Surveys (NRS) and Youth Attitude Tracking Survey (YATS)

Copies of the NRSs and corresponding answers were collected from the July 1994, November 1994, April 1995, and August 1995 surveys. Answers to the advertising awareness questions were compiled and analyzed to determine the level of influence advertising possessed on a new recruit's decision to enlist and to examine the changes in advertising awareness among the target audience. Data on propensities to enlist as determined by the YATS, were collected for males and females for FY 1993 through FY 1995.

6. Miscellaneous Data

Unemployment rates by month and by NRD were collected via the RIDS for FY 1993 through the second quarter of FY 1995.

D. DATA LIMITATIONS

1. Budget Data

CNRC's budget is separated into two portions: contracted and in-house advertising expenditures. The B&E reflected only contracted advertising expenditures which included all national advertising disbursements. Because it did not include in-house advertising costs (RAD items and field dollars), corroboration between execution expenditures listed in the B&E, NRD Allocation Matrix and RIDS is impossible. Therefore, the B&E could only be used to determine production expenditure figures.

The B&E does not facilitate the "snapshot" computation of accurate spending levels at any given point in time. Because of the length of time required to complete a contract, figures in the B&E are continually changing to account for contract changes, canceled campaigns, schedule changes, etc. until well after the appearance date. Thus, even year-end B&E reports dated on September 30th are not necessarily accurate unless all budget changes have been included. Additionally, because the B&E is the only record of production expenditures, the accuracy of these figures is questionable without verification that all contract changes have been explicated.

The anticipated appearance dates in the B&E do not correspond to the budget dates. Advertising expenditures are listed according to the fiscal year of their appearance date, however, they were funded by the budget in effect six months prior to that date. This approximate lag effect does not facilitate an accurate accountability of the budget.

2. Advertising Expenditure Data

The NRD Allocation Matrix and RIDS only reflect execution expenditures and do not serve as sources of production cost information. In addition, only expenditure information through the second quarter of FY 1995 was available from either database. While all advertising execution figures were obtained by media type, month and NRD, production amounts from the B&E were aggregated into year-end totals. Thus, in order to compare production overhead

to execution dollars, the execution figures had to be aggregated to match those from the B&E, resulting in limited findings.

3. Leads Generated Data

National leads data maintained by the NALTS do not distinguish between media type which generated the lead. The only leads data were an aggregate of television, radio and magazine leads. Additionally, national leads resulting from direct mail are not maintained in any database. The only national direct mail data are annotated in the NALTS Summary Report by Agency which allocates responses into the toll-free number to specific agencies. MARCOA, the agency which handles national direct mail, is attributed with leads through this means; however, there is no evidence that the responses listed in this report account for all possible leads generated. Many leads are not generated by a telephone call to the toll free number, and thus are not included in the NALTS Summary Report.

The aggregated leads data were maintained by month by NRD; however, prior to FY 1995, current month leads were not directly tracked. Instead, "total leads to date" were compiled which included carry over leads from prior fiscal years as well as total fiscal year to date leads. This required the conversion of the "total leads to date" into current month leads. Beginning in FY 1995, current month leads were maintained and accounting of carry over leads was discontinued.

IV. ANALYSIS

A. STUDY METHODOLOGY

This study uses data collected from CNRC which was entered into a database for analysis. Year-end (fiscal year) B&E reports provide advertising production expenditures. To properly allocate money to the correct fiscal year, this study uses a six month lag effect from the expected view date to determine production expenditures. For example, payment for a magazine insert with a view date of January 1996 was made from the FY 1995 budget (six months prior to the view date). This thesis determines television, radio, magazine and direct mail production figures similarly, and compares them to the corresponding execution expenditures derived from the NRD Allocation Matrix and RIDS. As previously mentioned, the accuracy of the B&E production figures are questionable due to the length of time required to fulfill an advertising contract. The year-end reports are irresolute and it cannot be verified that all contracts listed in the report have been fulfilled and/or adjusted as required.

In contrast to the B&E, the NRD Allocation Matrix facilitates the determination of accurate execution expenditures for the varying media types. BBDO accounts for all advertising changes and reflects them in the numbers they list in the matrix. Additionally, these figures are verifiable with those listed in the RIDS.

The advertising execution expenditures and impressions data were compiled, by media type, from the RIDS and the NRD Allocation Matrix. This

information includes television, radio, magazine, direct mail, newspaper, outdoor and supplemental figures. All were entered into the database by NRD and month for FY 1993 through the second quarter of FY 1995. Files aggregating the television, radio and magazine expenditures and impressions were created to facilitate correlation with the leads data. Unemployment rate information for each NRD by month was also compiled into the same database for FY 1993 through the second quarter of FY 1995.

This study then compiles monthly national leads data for FY 1993 through FY 1995 from a hard copy of the NALTS Executive Summary Reports for each NRD. These leads are an aggregate of those generated by national television, radio and magazine advertising. No national direct mail leads information was available. As previously mentioned, CNRC did not maintain leads information prior to FY 1995 on a current month basis (i.e., number of new leads generated in a given month). Instead, CNRC reported "total leads to date" which contained carry over leads from prior fiscal years along with current year leads. This required the conversion of the "total leads to date" into current month leads for FY 1993 and FY 1994.

A second conversion was required of the leads data. Each year, CNRC reviews the recruiting districts and geographic areas. This review frequently results in the shifting of boundaries, requiring some NRDs to be realigned, renamed or combined within other NRDs. Effective in FY 1995, CNRC dissolved NRA seven, and a major realignment of the NRDs took place. Because of this

change, this study converts the leads data from FY 1993 and FY 1994 NRDs to FY 1995 NRDs for consistency in comparison and correlation. All other information received from the RIDS accounted for the change. Derivation of the following correlations occured upon completion of the database:

1. Impressions versus dollars by media type for each NRD and national totals.

2. Dollars versus aggregated television, radio and magazine leads for each NRD and national totals.

3. Impressions versus aggregated television, radio and magazine leads for each NRD and national totals.

4. Unemployment rate versus leads for each NRD and national totals.

This study graphically presents the correlations to illustrate seasonal trends in expenditures, impressions and leads. The study focuses on four NRDs: 102 (New England), 313 (Atlants), 547 (ST. Louis) and 836 (Los Angeles). These four, as case studies, represent the data in general.

Finally, New Recruit Survey information was compiled from the July 1994, November 1994, April 1995 and August 1995 surveys. A tally of respondent's answers to the advertising awareness questions led to an investigation of patterns which might reveal shifting attitudes towards the Navy.

Table 3
General Enlisted Contracted Advertising Expenditures

	Production Overhead[6]		Execution[7]
Television		Television	
	FY 1993 142503		FY 1993 301750
	FY 1994 1237262		FY 1994 4402793
	FY 1995 1491443		FY 1995(2nd qtr) 8764659
Radio		Radio	
	FY 1993 178863		FY 1993 1452936
	FY 1994 340843		FY 1994 2891864
	FY 1995 200543		FY 1995(2nd qtr) 1488725
Magazine		Magazine	
	FY 1993 0		FY 1993 1044899
	FY 1994 8668		FY 1994 1575233
	FY 1995 0		FY 1995(2nd qtr) 1234095
Direct Mail		Direct Mail	
	FY 1993 0		FY 1993 761064
	FY 1994 0		FY 1994 1253274
	FY 1995 0		FY 1995(2nd qtr) 994758

[6] Production overhead figures based on annual CNRC Budget and Expenditures (B&E) Report. FY 1995 figures as of August 1995.
[7] Execution figures based on NRD Allocation Matrix. FY 1995 figures only through March 1995.

B. RESULTS

Table 3 shows production and execution expenditures for general enlisted national advertising (television, radio and magazine). Sharp increases reflect plus-ups in the Navy's advertising budget (in both production and execution figures) from FY 1993 to FY 1994. Additionally, even though only the first two quarters are reported for FY 1995, there continues an upward trend in the the national advertising budget. Television execution expenditures for the first half of FY 1995 are more than twice the FY 1994 year-end figures. The release of several new advertisement campaigns in FY 1995 partly account for this increase.

Although the overall dollar increases are relatively obvious, possible inaccuracies in the B&E prevent a more in-depth analysis. To provide more precise analysis would require verification of expenditures and more accurate definition of advertising programs. Additionally, similar data limitations exist in comparing the budget to the number of impressions purchased and leads generated. Because the leads data were an aggregate of television, radio and magazine leads, dollar and impression figures had to be aggregated for comparison.

Figure 4 represents a comparison of total national advertising expenditures (television, radio and magazine) to corresponding total impressions and total leads. Once again, an impression is defined as the exposure of one

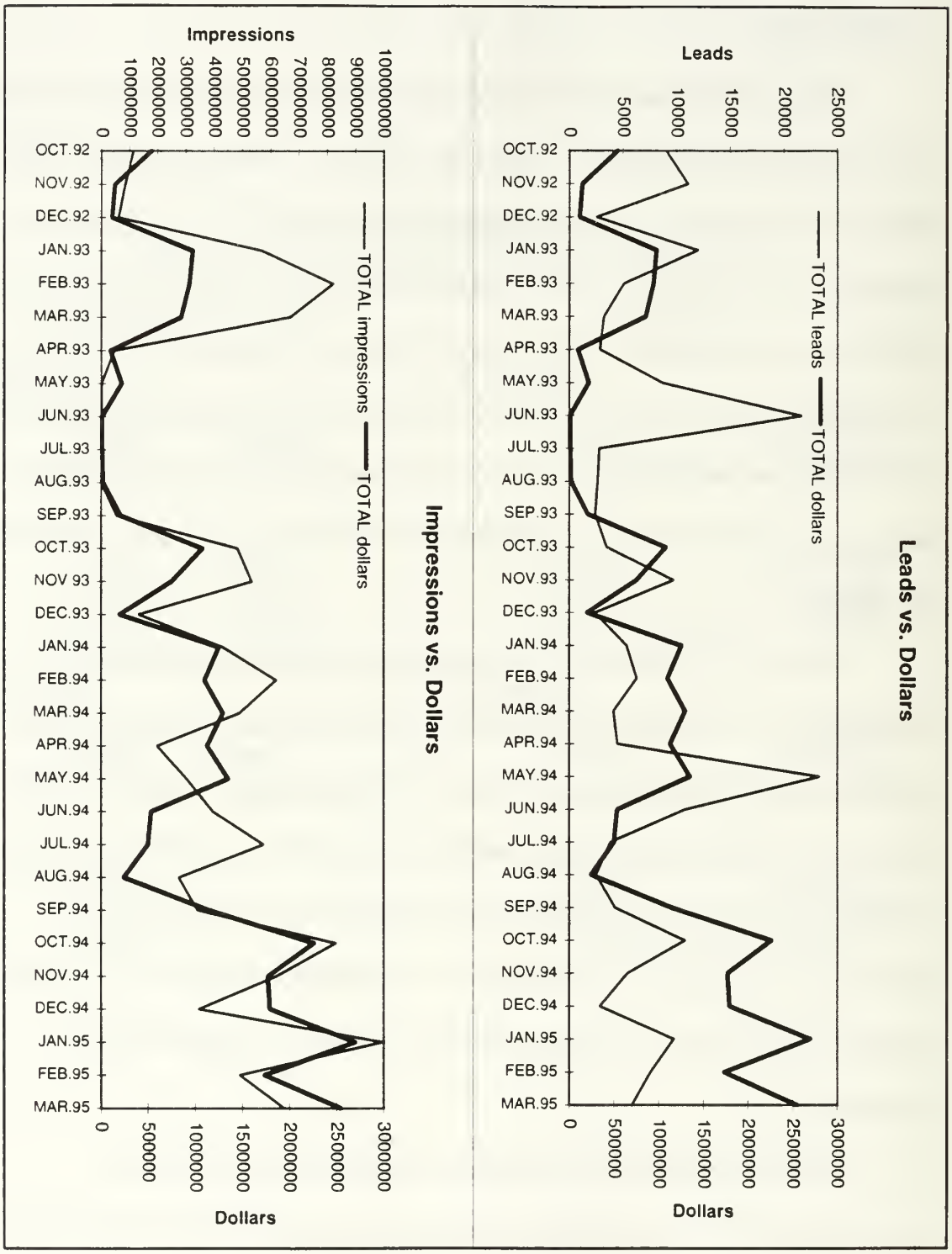

Figure 4. General Enlisted National Advertising Totals Aggregated Television, Radio and Magazine Data

individual to advertisement. Since impressions are largely determined by the be number of dollars spent, the correlation between dollars and impressions should very close to one (i.e., perfect correlation). However, examination of the relationship between monthly aggregated dollars and impressions from FY 1993 second quarter of FY 1995, revealed a correlation of 0.78077. Based on the definition of an impression, the aggregate data does not accurately depict the relationship of impressions to dollars.

Results of the four case studies further illustrate this point. When examined at the district level, by month, and by media type, comparison of impressions versus dollars resulted in the following correlations:

	Television	Radio	Magazine
NRD 102	.94822	.98713	.91800
NRD 313	.96384	.96363	.95350
NRD 547	.95962	.91172	.94817
NRD 836	.95193	.99124	.91926

These figures, specified by media type, are much closer to what one would expect the correlations to be. Figures 5 through 8 graphically illustrate how impressions and dollars, by media type, moved together over the three years examined for each of the NRDs.

Correlations between leads and dollars showed no real relationship, either with aggregated national totals or when specified by NRD. For national totals, the correlation was estimated at 0.11113, displaying no strong association

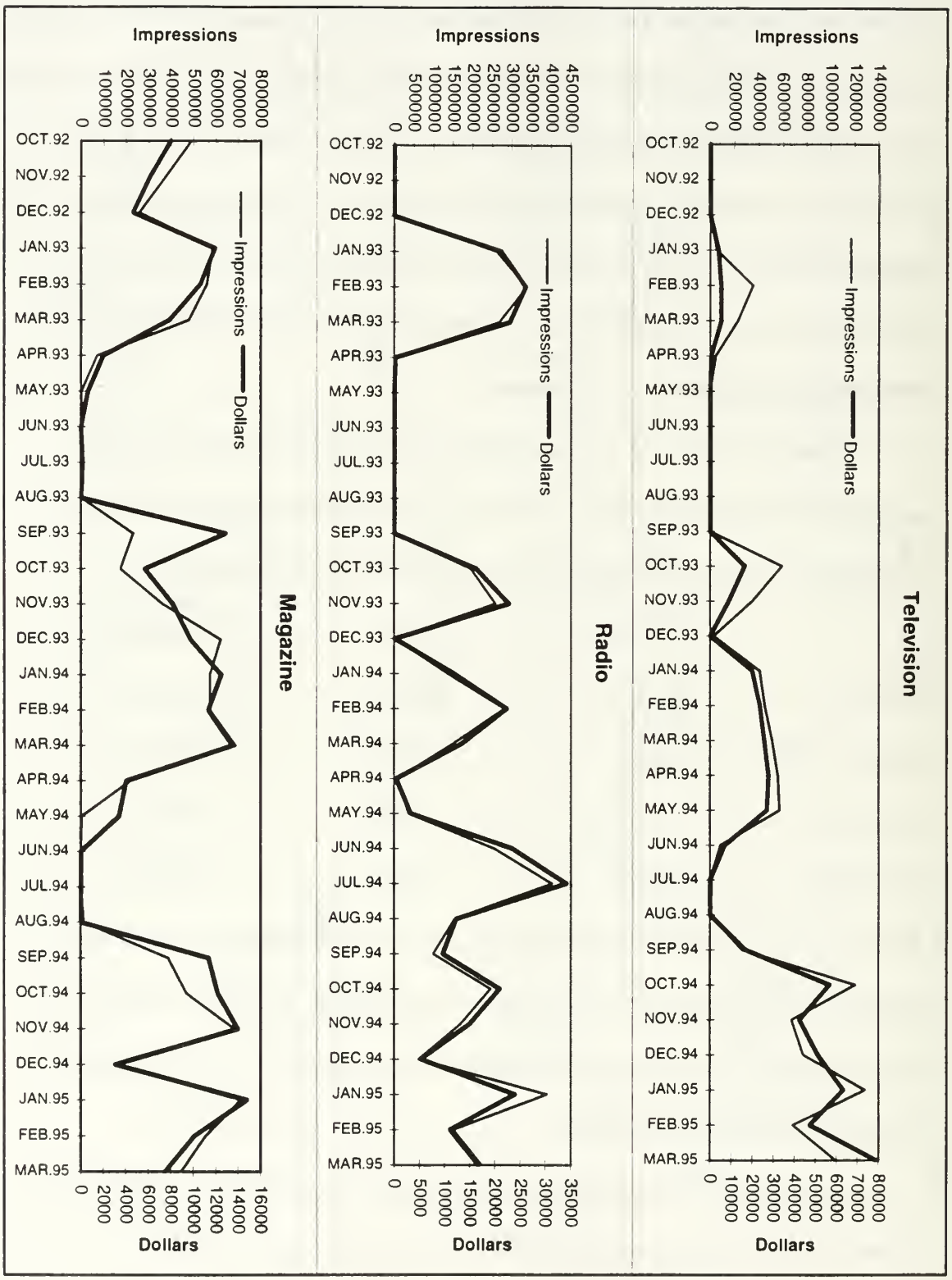

Figure 5. NRD 102 Impressions vs. Dollars by Media Type

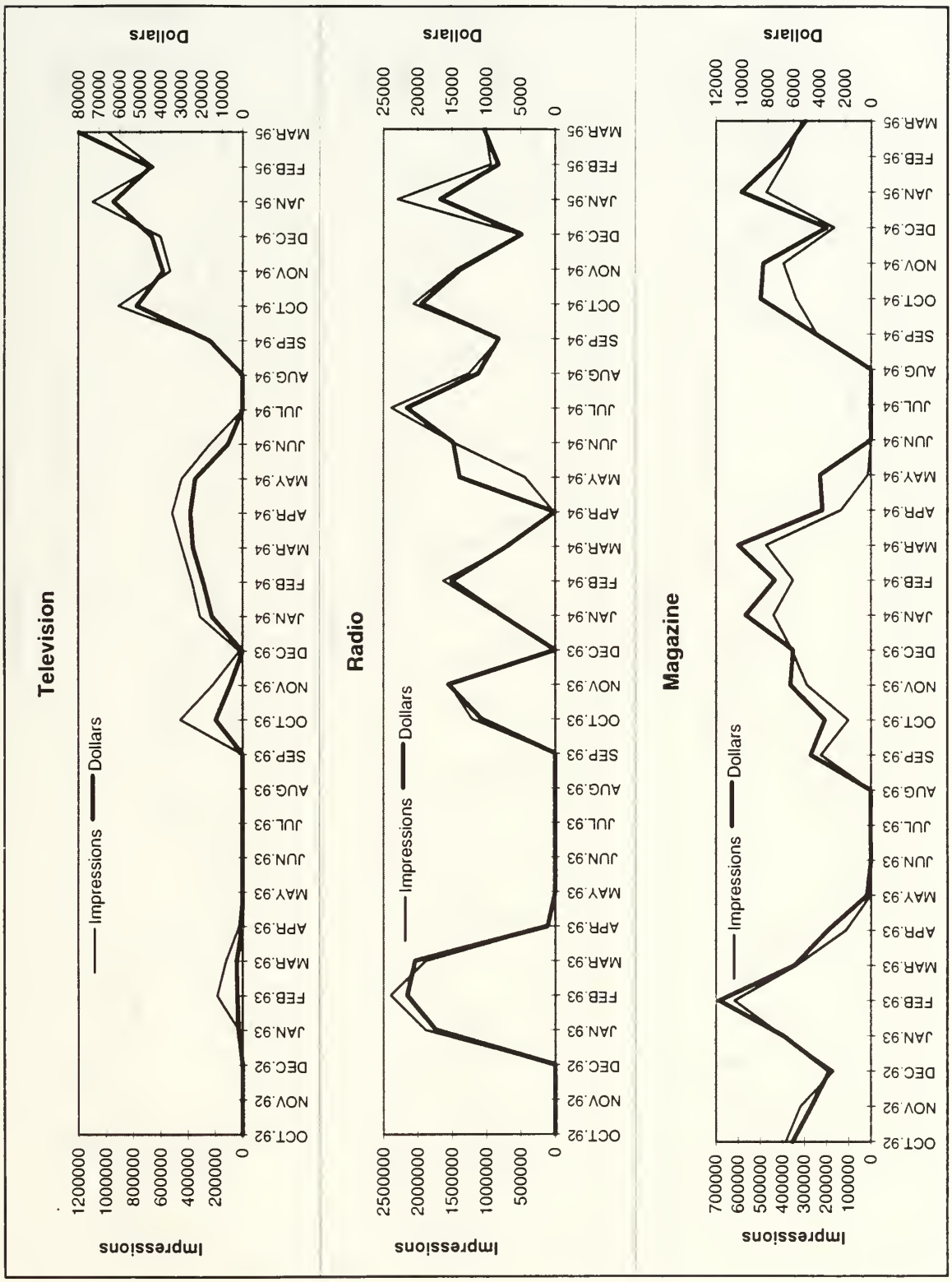

Figure 6. NRD 313 Impressions vs. Dollars by Media Type

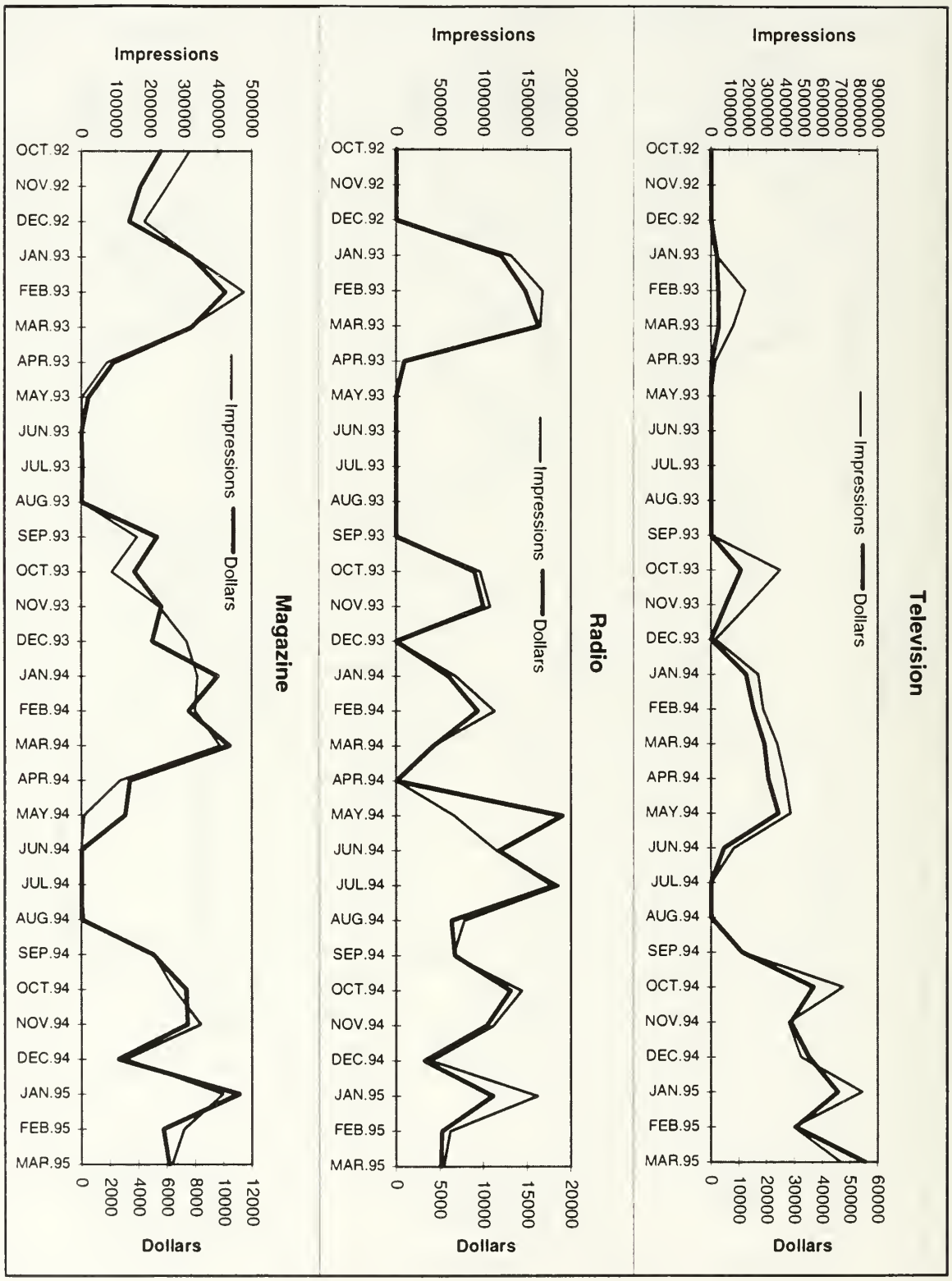

Figure 7. NRD 547 Impressions vs. Dollars by Media Type

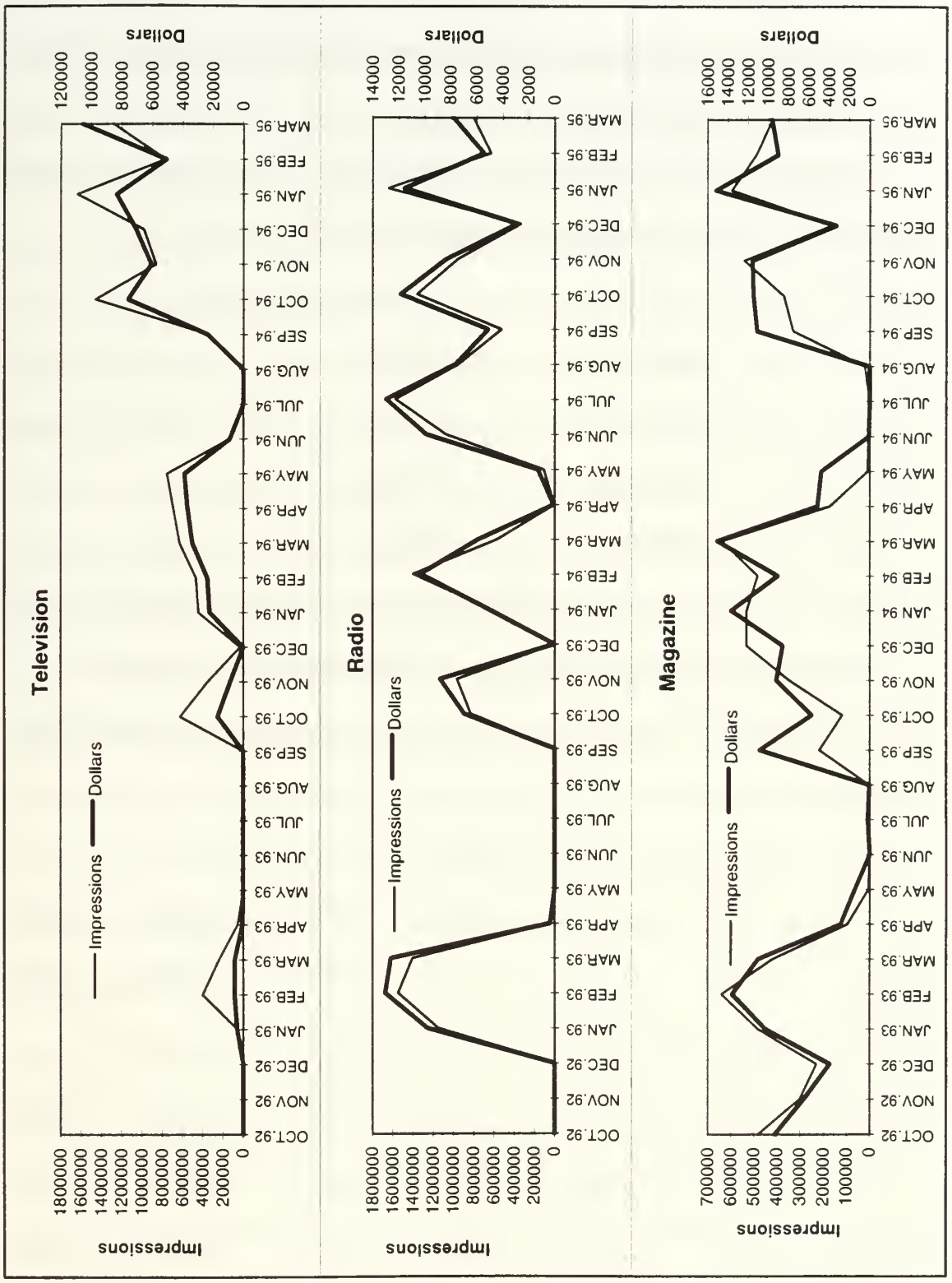

Figure 8. NRD 836 Impressions vs. Dollars by Media Type

in either the positive or negative direction. Figure 4 depicts this absence of any real association. Leads appear relatively independent of the amount of money spent in a given month on national advertising.

When the data were specified by NRD, the four case studies revealed the same lack of conclusive association between dollars and leads:

	Correlation with leads
NRD 102	.06720
NRD 313	.19141
NRD 547	.02606
NRD 836	.19445

Because no relationship could be substantiated, the number of leads generated were shifted up to six months determine if advertisement had a possible "lag effect" on the leads. This resulted in the following correlations between leads and dollars:

	Lead Lag Time					
	1 mo	2 mos	3 mos	4 mos	5 mos	6 mos
National Totals	.04051	.07979	.31810	.34563	.13664	-.07059
NRD 102	-.2943	.0088	.42307	.44991	-.02788	-.04312
NRD 313	-.23312	-.06774	.42795	.47522	-.03883	-.15410
NRD 547	-.32822	-.14684	.41496	.54565	.17818	-.14092
NRD 836	-.0453	.09455	.58395	.52099	.39931	.02183

While there is still no evidence of strong correlation, it is clearly evident that the correlations seemed to be the strongest with a three- or four-month lag effect. This was true for the national totals as well as when broken into NRDs. The correlations showed characteristics of strengthening with each additional lagged month until the three- or four-month point. After this, they all dropped significantly. Figures 9 through 12 illustrate the difference between leads versus dollars before any lag effect and with a four-month lag effect in place for the four case study NRDs. It can be hypothesized that advertising has a four month lag effect on leads generated; however, in order to further analyze this hypothesis, a regression analysis with data broken down by month, by NRD, and by media type is required to substantiate any potential lag effect.

It is also important to note that the aggregated (television, radio and magazine) national data misrepresents many of the NRDs. The correlation between leads and dollars using the aggregated information deviates both positively and negatively from the NRD specific information, further evidence that using aggregated data for a cost-effectiveness analysis produces suboptimal findings.

Analysis of the leads data over the three year period demonstrates a pattern in inquiries about the Navy which may be independent of any advertising program. There are distinct "peaks" in the volume of leads generated several times a year. May and June are the highest leads generation months, followed by November and January. These iincreased lead levels are consistent with

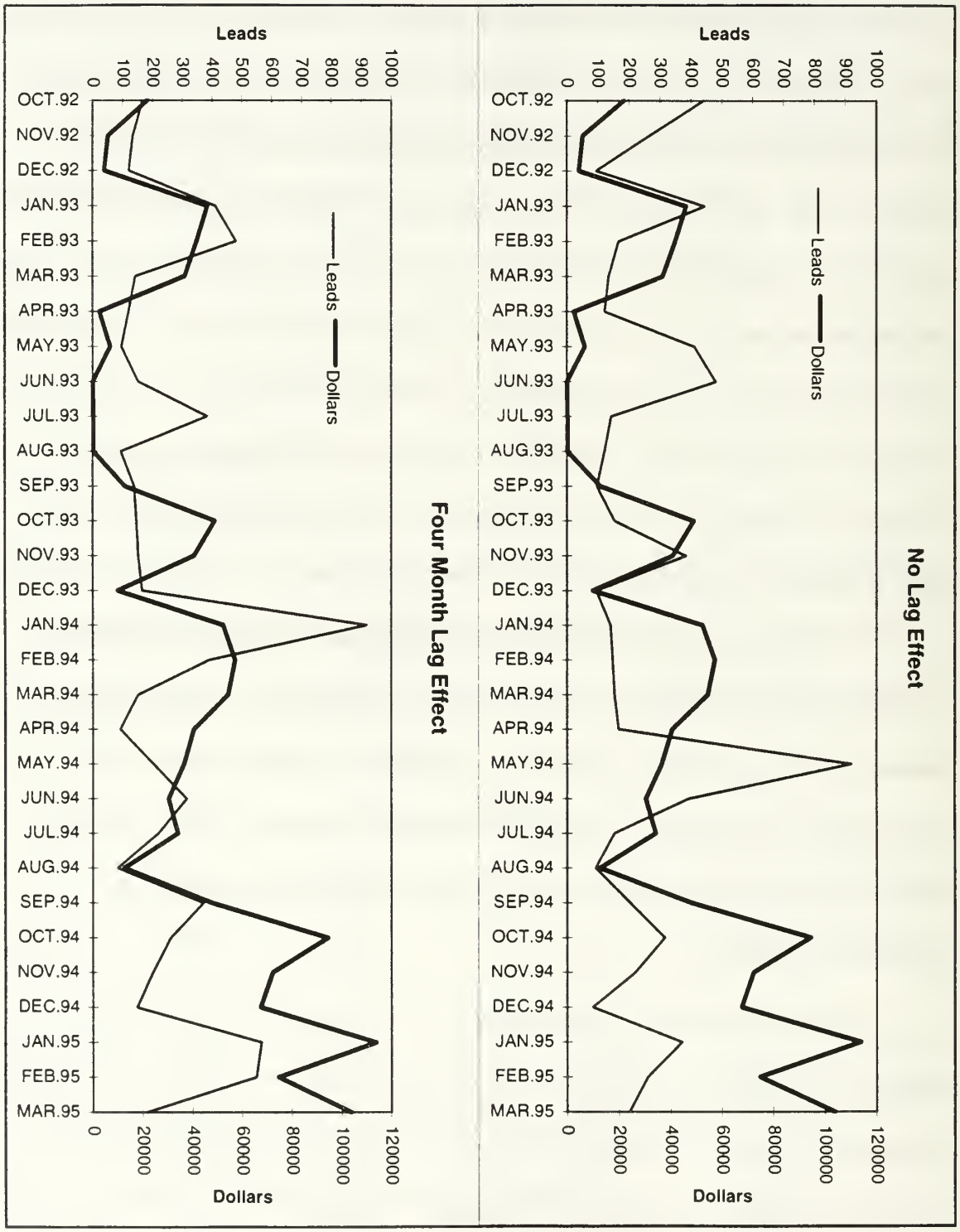

Figure 9. NRD 102 Leads vs. Dollars

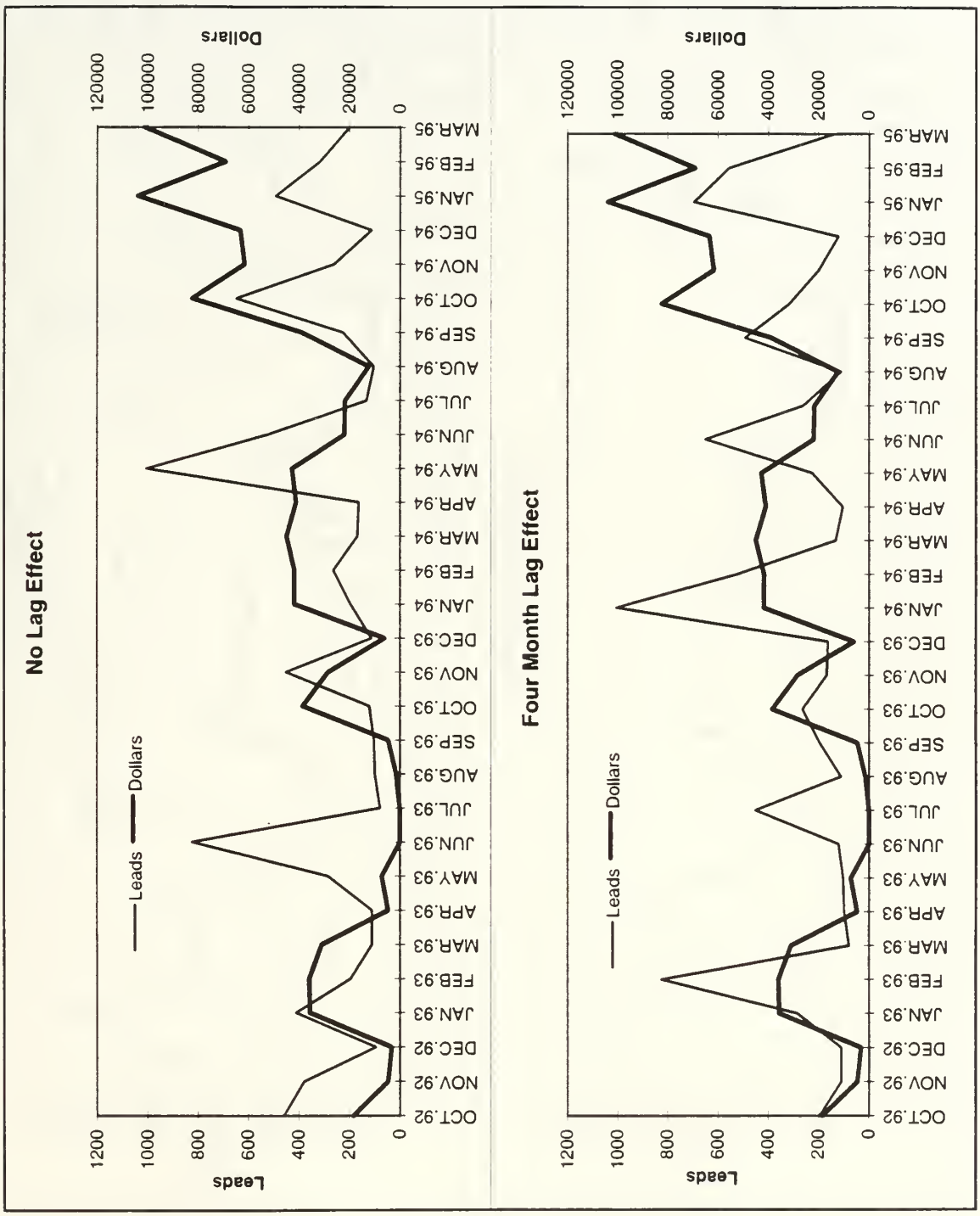

Figure 10. NRD 313 Leads vs. Dollars

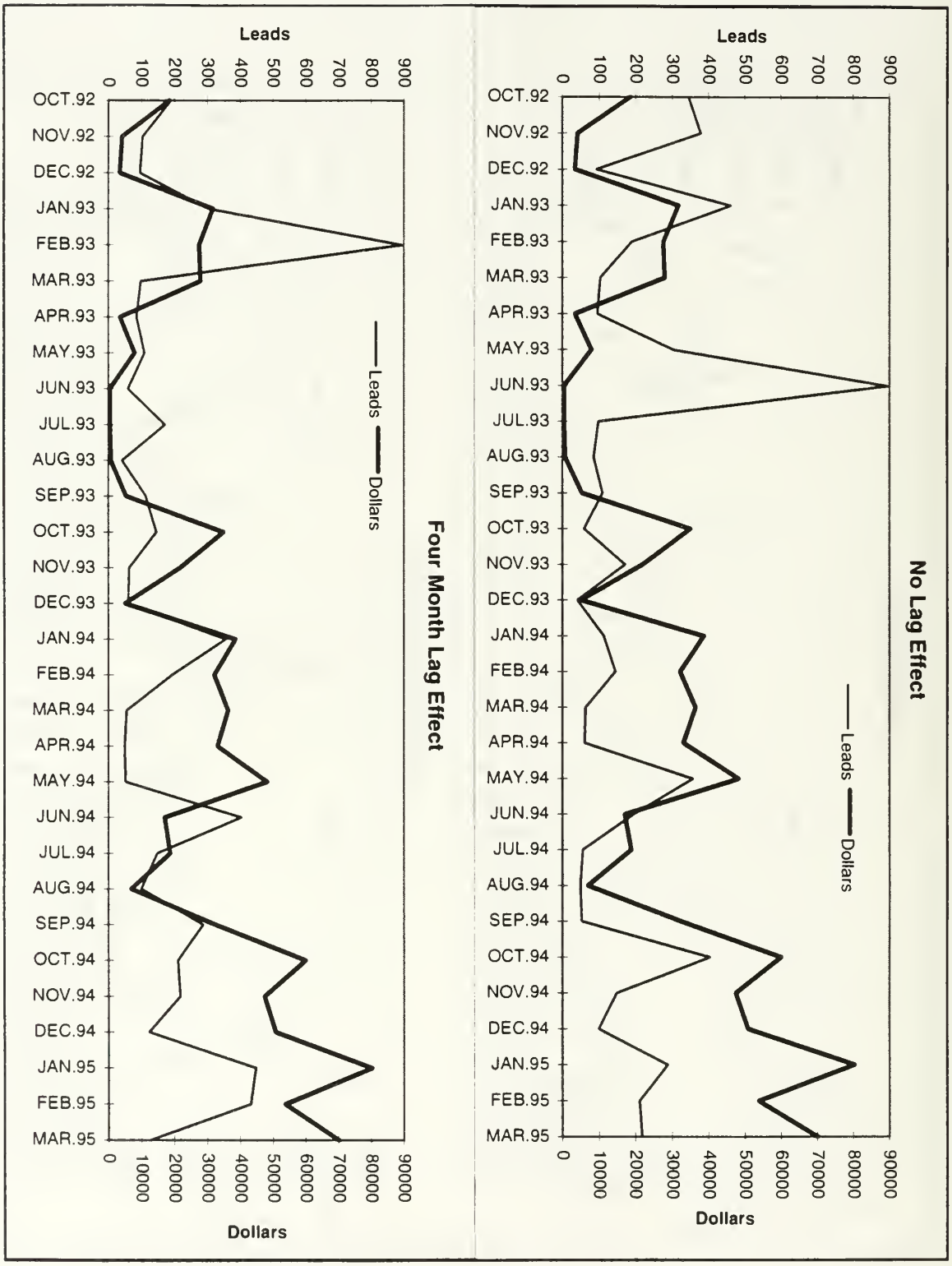

Figure 11. NRD 547 Leads vs. Dollars

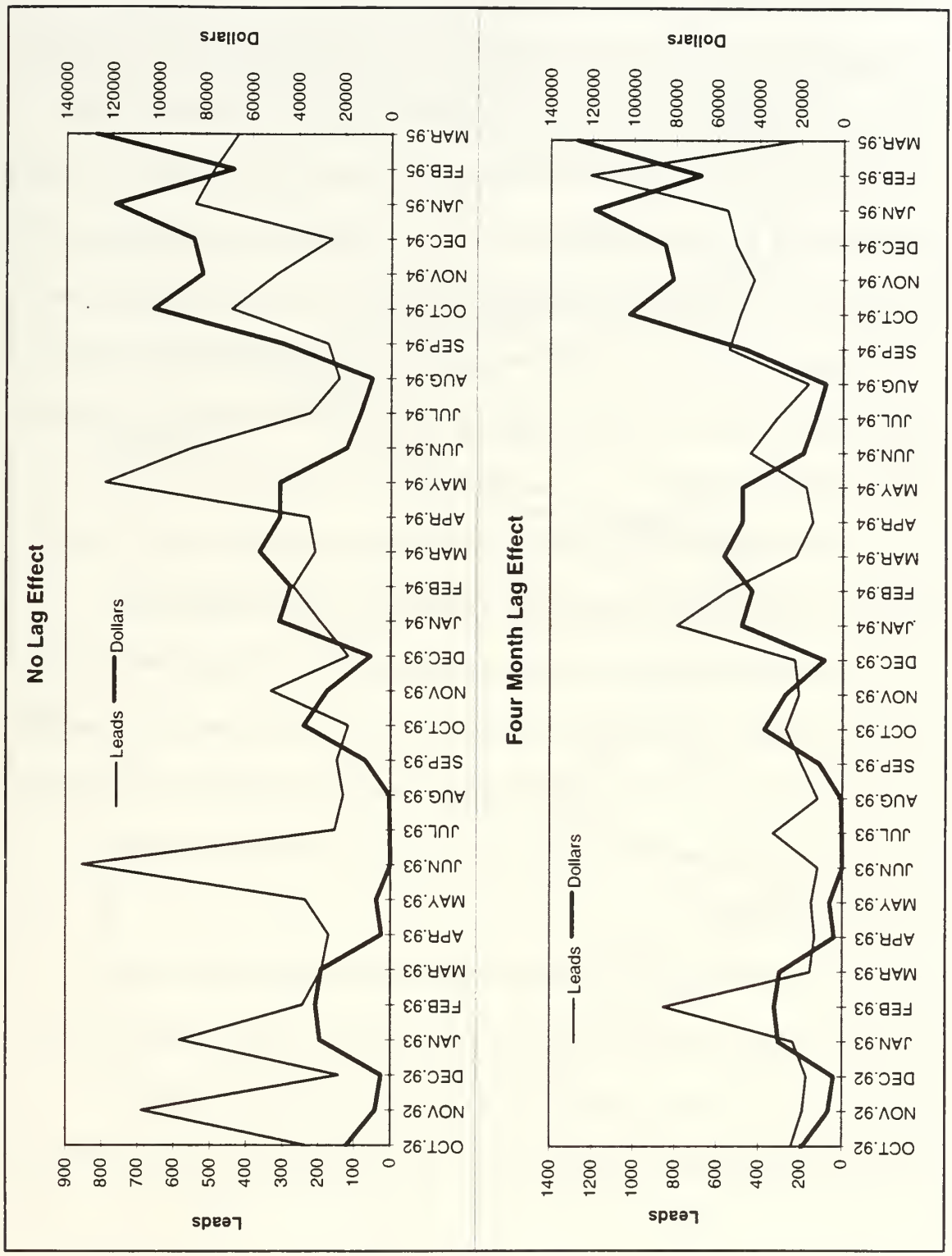

Figure 12. NRD 836 Leads vs. Dollars

potential "job seekers" due to graduation from high school and college. It is during these months that students become more serious about their future work status and explore their alternatives. Interestingly, during these peak lead months, expenditures consistently decrease, as previously illustrated in Figures 4 through 8. It is assumed that leads will occur regardless of advertising during these times of the year. As such, peak advertising expenditures coincide with times of low lead rates to improve awareness and promote the Navy to those potential job seekers. Figure 13 clearly illustrates these lead patterns from FY 1993 through FY 1995.

These findings also validate the need for more detailed data. Not only should the data already discussed be collected in a more detailed and consistent manner, but other extraneous factors which influence leads should also be collected. Many of these factors, however, are not readily measurable (i.e., family influence, recruiter effectiveness, personal objectives, etc.), but the more detailed the data, the more accurate the evaluation of advertising's effectiveness will be.

The unemployment rate is one external factor often cited as being influential in an individual's determination to join the military.[8] Contrary to the findings of past studies, when examined at the district level, correlations between the number of leads generated and the unemployment rate showed no

[8] For further explanation of the effect of unemployment rate on potential recruits see Hanssens and Levien, 1983; Warner, 1990; or Goldberg, 1979.

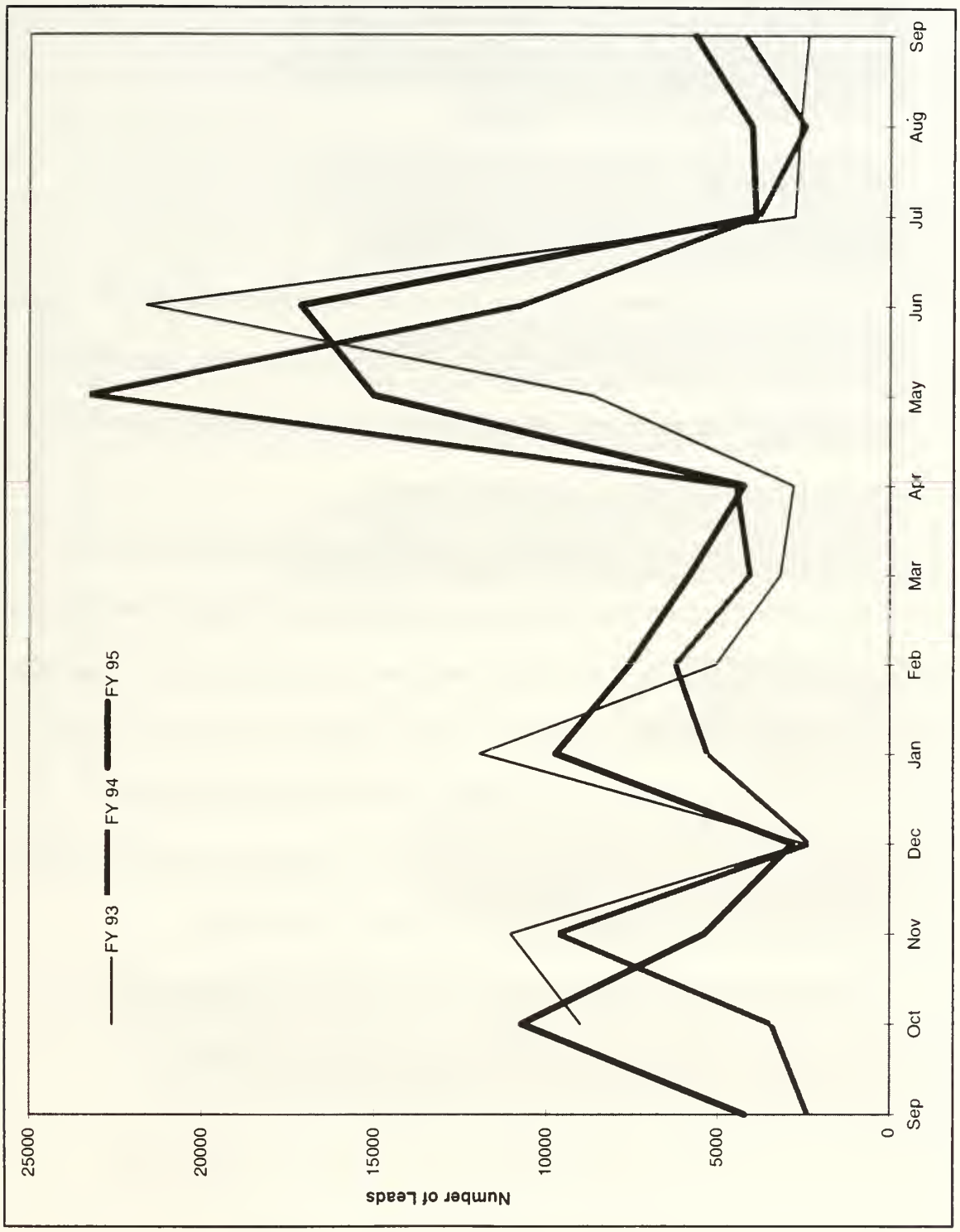

Figure 13. National Advertising Leads Generated FY 1993 through FY 1995

significant association. Findings were as follows:

	Correlation
NRD 102	.01351
NRD 313	-.09905
NRD 547	.32276
NRD 836	-.04702

These findings do not seem to support the usual assumption that as the unemployment rate rises, so do the number of leads generated. Subsequent analysis using additional demographic data with the media-specific leads is necessary to further investigate this hypothesis.

The New Recruit Survey data depicted the potential effectiveness of the various advertising mediums for promoting awareness. Analysis of respondents' answers to the advertising awareness questions showed significant increases in advertising's effectiveness in November 1994, following the doubling of the Navy's advertising budget and the release of several new advertisement campaigns. However, following this, all measures remained relatively constant, with a minor increase in awareness by the August 1995 recruits.

The NRS data indicates the most visible of the advertising mediums is television. As seen in Figure 14, when asked if they were aware of advertising, over 70% of the new recruits indicated they had seen Navy television ads. Magazines followed closely with an approximate 60% exposure rate for magazine insertions.

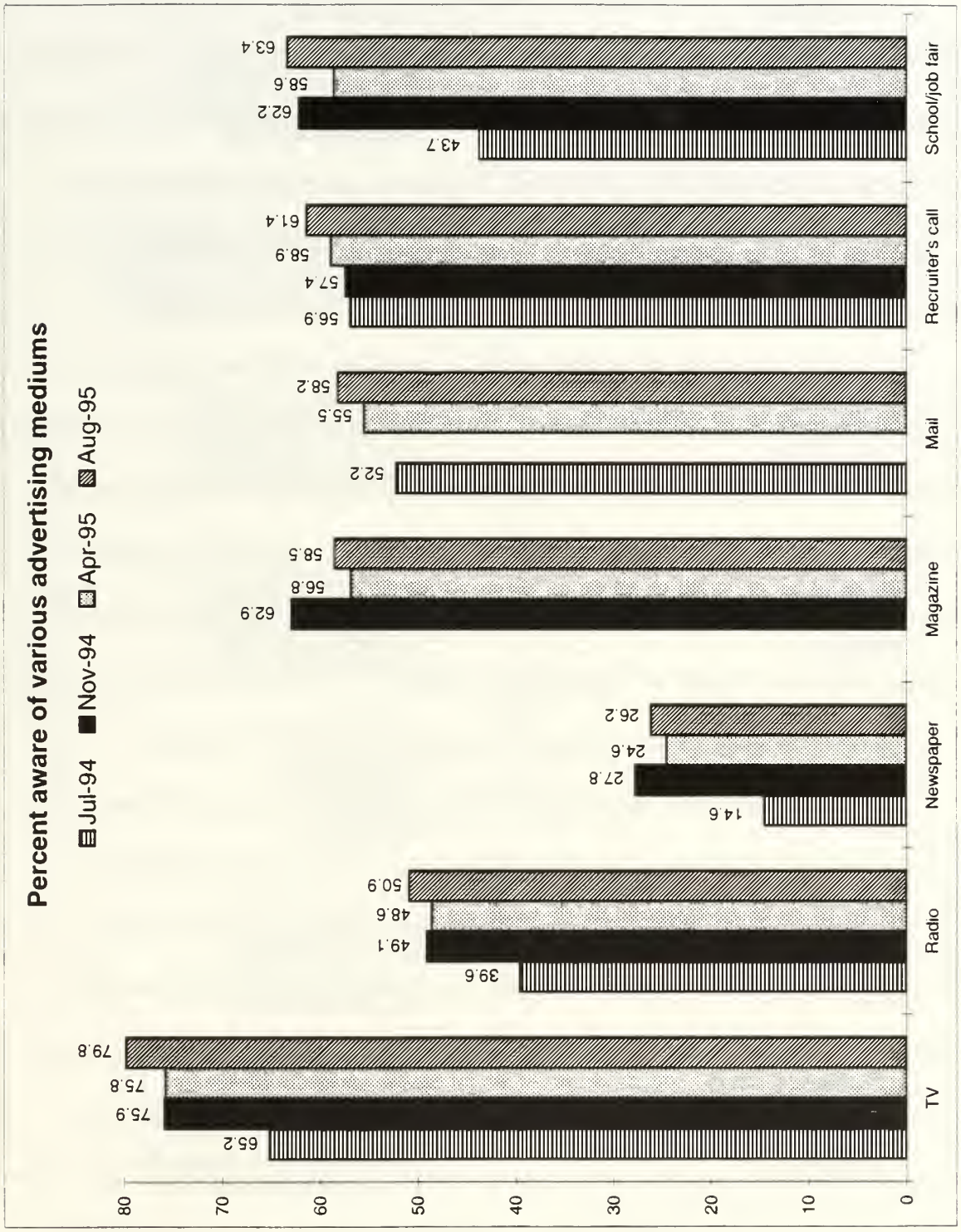

Figure 14. Navy Advertising Awareness

Analysis of advertising's influence on the decision to join the Navy revealed that the recruiter's personal contact was by far the most influential. A recruiter's effect on an individual is difficult to measure, and the NRS is one of the only sources of data to this effect. Further analysis at the district level detailing the characteristics of the influence of recruiters may expand on the recruiter's role in promoting awareness.

Figure 15 presents the percentages of new recruits who state that different advertising mediums affected their decision to join the Navy. National advertising mediums consistently create influence among the target audience. Definitive differences exist between the number who state that in general, various advertising mediums are influential, and the number which state that advertising had "much" or "very much" influence. National advertising mediums show the greatest contrast; recruiter's phone calls remain consistent.

When comparing responses before and after the budget increase, there does not appear to be any significant change in the influence levels of advertising. The level of influence obtained by each advertising medium has remained relatively constant. The fact that the source of this data is actual recruits, makes the NRS a valuable source of advertising data. As such, this lack of change in attitudes since the budget increase is cause for concern. Further analysis using the demographic details (i.e., hometown, age, education, job experience, etc.) provided with the NRS data might reveal reasons for the absence of any consequential change in the target audience disposition.

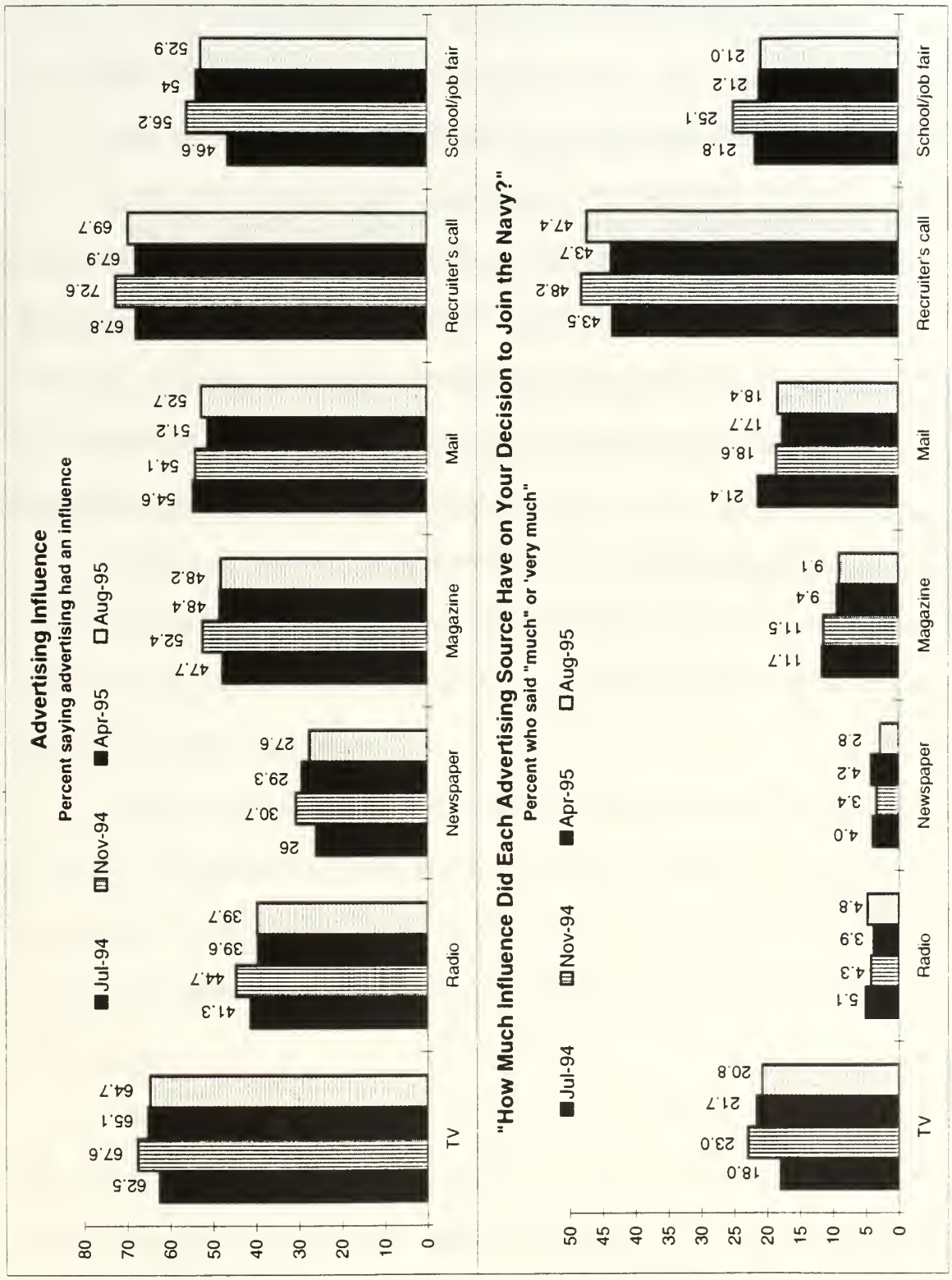

Figure 15. Navy Advertising Influence

Review of the propensities to enlist , as compiled by the YATS, reveal the same consistency in attitudes among the target audience. In 1993, 16-21 year old males were reported to have a 9.8 percent tendency to join the Navy. In 1994, this figure dropped to 8.6 percent, and rose in1995 to 9.7 percent. Though the figures are low in 1995, the Navy and Army were the only services to increase their propensities by over a full percentage point. The Air Force dipped .1 percent and Marine Corps rose by only .2 percent. The lack of any real change in the attitude of the target audience brings into question whether increases in the advertising budget results in change, or if additional funds could be better used elsewhere.

V. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The primary purpose of this study was to determine if recent increases in the Navy national advertising budget resulted in an increase in national awareness, as measured by the number of leads generated. Due to data limitations, this study provides only a preliminary analysis. The principle contributions of this report are to document the data required to conduct a true cost-effectiveness analysis of the Navy's advertising expenditures, and to provide a preliminary analysis of the issue.

Correlations between leads generated and dollars expended reveal the possible existence of a three- or four-month lag effect. Shifting the leads data four months behind expenditures results in a positive increase in the relationship between the leads and dollars.

The study verifies the association between impressions and levels of spending. Correlations by month, media type and NRD revealcorrelations greater than .9, as expected. However, the relationship between impressions and leads generated cannot accurately be determined without leads specified by media type.

Successful execution of Navy advertising has a definite effect on national awareness. New Recruit Survey advertising awareness questions support the effect; recruits answered positively to both being exposed to various mediums of advertising, and being "decidedly influenced" by that advertising. No evidence

exists, however, to show that the increase in advertising expenditures increases awareness or changes attitudes of the target audience. Responses on the New Recruit Survey remained relatively constant both before and after budget increases.

The NRS reveals that the target audience is exposed to television advertisement more than any other medium, followed by magazine insertions. These mediums may be the most cost effective means of reaching a large audience; however, further regression analysis with leads by media type is required to validate this conclusion.

The usual assumption that an increase in the unemployment rate increases the number of leads is not supported by this study. The correlations reveal no relationship between unemployment rates and leads generated. Again, further analysis of this data is required to explain this relationship.

B. RECOMMENDATIONS

In order to accurately determine that portion of the advertising budget which contributes to production overhead and advertising execution, the B&E must first be standardized. The difficulty in interpreting this budget document only contributes to the potential for inaccurately evaluating expenditures. The B&E should be organized consistently each year. Expenditures should be organized by program and media, in a consistent manner each year. If possible, expenditures should be maintained by month to facilitate comparison with other expenditure reports, impressions figures and leads data. Dollar figures must be

kept current, with fixed costs of production separated from the variable costs of execution and administration. Actual purchase or contract dates should be annotated along with the expected view dates to assist in determining budget allocation. Because the B&E is the only source of production expenditures, standardization of the report would facilitate easier compilation of production spending each year.

The NALTS and RIDS both provide monthly data by NRD; however, the two databases are maintained independent of each other by two different departments within CNRC. NALTS may consider adopting the format used by the RIDS as it enables easy data manipulation by month and NRD. Information from the NALTS, currently maintained on microfiche, should also be maintained in a computerized database.

In order to conduct a more thorough analysis of the relationship between changes in the Navy advertising budget and the number of leads generated, the leads data must be maintained by media type, month and NRD. The use of aggregated television, radio and magazine leads does not facilitate an accurate analysis. Direct mail leads are also essential in this analysis. Each media type has a different effect on the target audience. A regression analysis using media-specific data, by month and NRD, would enable a determination of the impact of advertising expenditures on leads generation.

One source of important demographic data are the New Recruit Surveys. Because individuals answering these surveys have already accessed into the

Navy, an analysis of their demographic characteristics might prove useful in determining better allocation of advertising resources.

The lack of association between leads generated and dollars expended begs the question, how does CNRC determine the mix of media used? Without leads data specified by media type, it is impossible to accurately analyze the impact of various budget expenditures on leads generated or awareness. Thus, CNRC's budget decisions are complicated, not necessarily optimal, and difficult to justify.

LIST OF REFERENCES

Arima, James K., *Advertising Budgets, Advertising Effectiveness, and the Navy's Recruiting Advertising Program*, NPS54-78-009 Final Report, December 1978.

Bayus, Barry, et al., "The Navy Enlistment Marketing Experiment," *Marketing Science*, Vol. 4, No. 4, Fall 1985.

Carroll, Vincent P., and Ambar G. Rao, *The Navy Enlistment Field Marketing Experiment*, Wharton Center for Applied Research, Final Report December 1981.

Dertouzos, James N., *The Effects of Military Advertising: Evidence from the Advertising Mix Test*, The RAND Corporation, N-2907-FMP, March 1989.

Dertouzos, James N., and J. Michael Polich, (with Anil Bemazai, Thomas Chesnutt), *Recruiting Effects of Army Advertising*, The RAND Corporation, R-3577-FMP, January 1989.

Goldberg, Lawrence, "Recruiters, Advertising, and Navy Enlistments," *Naval Research Logistics Quarterly*, Vol. 29, No. 2, June 1982.

Hanssens, Dominique M., and Henry A. Levein, "An Econometric Study of Recruitment Marketing in the U. S. Navy," *Management Science*, Vol. 29, No. 10, October 1983.

Lerro, Pat, et al., *Military Advertising Awareness and Effectiveness: Findings from the 1990 Youth Attitude Tracking Study*, Defense Manpower Data Center, Arlington, Virginia, 1991.

Lovell, C.A. Knox, Richard C. Morey, and Lisa L. Wood, "Cost-Efficient Military Recruiting: An Econometric Aproach," *Defense Economics*, Vol. 2, 1991.

Morey, Richard C., and John M. McCann, "Armed Forces Recruiting Research: Issues, Findings, and Needs," *Naval Research Logistics Quarterly*, Vol. 30, No. 4, December 1983.

New Navy Recruit Survey, Department of the Navy.

Robertson, David D., *Navy New Recruit Survey (NRS)*, Naval Personnel Research and Development Center, San Diego, California, November 1993.

Warner, John T., "Military Recruiting Programs During the 1980s: Their Success and Policy Issues," *Contemporary Policy Issues*, Vol. 8, October 1990.

Webb, Natalie J., and So Young Sohn, *Final Report to U.S. Army Recruiting Command: Recommendations for Analysis of U.S. Army Budget Requirements and Efficient Resource Allocation for Advertising Expenditures*, Naval Postgraduate School, December 1994.

UNCITED REFERENCES

Corkindale, David R., and Sherril H. Kennedy, *Measuring the Effect of Advertising*, Saxon House, England, 1975.

Rao, Ambar G., *Quantitative Theories in Advertising*, John Wiley and Sons, New York, 1970.

Rhodes Associates, *Evaluation of Navy Advertising Effectiveness*, N62271-7206-5700 Final Report, Stanford, California, 1978.

Second Quarter FY-93 Bureau of Naval Personnel Statistics, Department of the Navy, March 1993.

Siegel, Barry S., and Jules Borack, *An Econometric Model of Navy Enlistment Behavior*, Naval Personnel Research and Development Center, June 1981.

Williams, Thomas Cloud, *Effectiveness of Navy Advertising*, unpublished Master's Thesis, Naval Postgraduate School, September 1978.

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center 2
   8725 John J. Kingman Road
   STE 0944
   Fort Belvoir, VA 22060-6218

2. Library, Code 52 2
   Naval Postgraduate School
   Monterey, CA 93943-5101

3. Department Chairman, Code 36 1
   Department of Systems Management
   Naval Postgraduate School
   Monterey, CA 93943

4. Commander Navy Recruiting Command 1
   CDR Don Wilson, Code 20
   801 North Randolph Street
   Arlington, VA 22203-1991

5. Commander Navy Recruiting Command 1
   Dr. Edward Schmitz, Code 222
   801 North Randolph Street
   Arlington, VA 22203-1991

6. Assistant Professor Natalie Webb 1
   Defense Resource Management Institute, Code 64We
   Naval Postgraduate School
   Monterey, CA 93943

7. Lieutenant Commander Julie Dougherty 1
   Department of Systems Management, Code SM/Dg
   Naval Postgraduate School
   Monterey, CA 93943

8. Professor Stephen Mehay 1
   Department of Systems Management, Code SM/Mp
   Naval Postgraduate School
   Monterey, CA 93943

9. Lieutenant Sheryl L. Tannahill, USN 1
   388A Ricketts Road
   Monterey, CA 93940

17 51NPS 1331
TH
1/99 22527-200 NULE

DUDLEY KNOX LIBRARY
3 2768 00361229 2